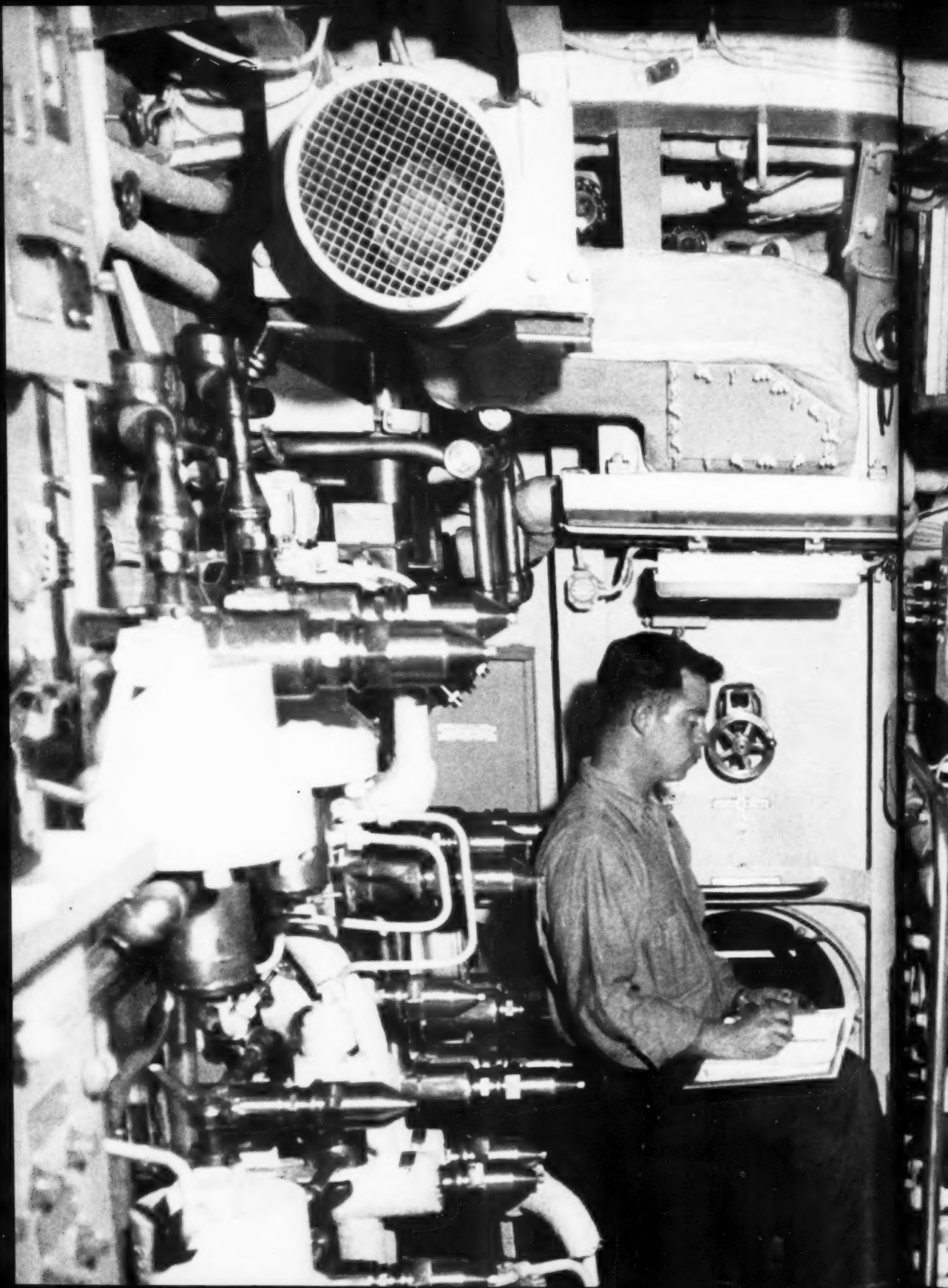


ALL HANDS



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JULY 1960



ALL HANDS

THE BUREAU OF NAVAL PERSONNEL INFORMATION BULLETIN

JULY 1960

Nav-Pers-O

NUMBER 522

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• AT LEFT: INSIDE AN ATOM SUB—J. B. Thomas, EM2(SS), USN, takes reactor fresh-water temperature in reactor compartment of nuclear-powered submarine USS Skipjack, SSR(IN) 586, as he stands above the atomic reactor compartment.

• FRONT COVER: SILVER LINING—Crew member of small seaplane tender USS Greenwich Bay (AVP 41) enjoys the view from ship's fantail as the sun breaks through storm clouds during voyage through the Strait of Messina between Sicily and Italy. Photo by R. D. Moeser, PH1, USN.

• CREDITS: All photographs published in ALL HANDS are official Department of Defense photos unless otherwise designated.

What's With

WHAT WITH ALL this modernization and conversion going on, it's difficult to determine just where we stand. What's here today may be obsolescent tomorrow—or it may have a considerably long life still ahead of it.

Here's the box score on the Navy's operational and proposed missiles, based upon unclassified information in the Department of Defense:

BULLPUP is an air-to-surface supersonic missile with a range of more than 15,000 feet. About one foot in diameter, 11 feet long, weight 571 pounds, it is powered by a solid-propellant rocket system at present. Its guidance system is controlled by radio signals.

It is relatively inexpensive, highly accurate, and simple in design. With its conventional warhead, it is intended for use against comparatively small defended targets—pillboxes, tanks, truck convoys, bridges, railroad tracks, marshalling yards, and the like. It is now operational aboard USS *Lexington* (CVA 16) and is also in use by the Air Force and Marine Corps.

A new improved *Bullpup*, with a pre-packaged liquid fuel motor, is in production and is scheduled to replace the present solid-fuel type. Other improvements will include a more powerful warhead and an improved guidance system.

REGULUS I is a bird of a different feather. A ship-to-surface monster, it weighs approximately seven tons, travels about 600 miles per hour and has a range of 500 miles. It is 34 feet long, has a wing span of 21 feet, and is powered by a turbo-jet with a solid propellant booster. An electronic brain acts as a guidance system for its nuclear warhead. It is now well-nigh obsolescent, as the last *Regulus I* was produced for the Navy in 1958.

The first operational attack missile to join the Fleet, *Regulus* resembles in appearance a modern swept-wing jet fighter. One nuclear-powered sub, four conventional subs and two cruisers now in commission possess *Regulus I* capabilities.

SIDEWINDER is the baby of the Navy's new arsenal. Nine feet long, with a diameter of five inches, it weighs only 155 pounds. An air-to-air missile, it travels at supersonic speeds, has a ceiling of more than 50,000 feet and is driven by a solid-propellant rocket. It possesses a conventional warhead and is guided by an infrared heat-seeking device.

It was designed for destroying enemy fighters and bombers and finds its target by homing on the heat emitted from the aircraft.

Sidewinder is a relatively inexpensive and reliable weapon which

POLARIS, Navy's submarine missile is slated to be operational this year.



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the Missiles?

has very few moving parts and no more electronic gear than an ordinary radio. As a result, no specialized training is required to handle and assemble it.

Operational in July 1956, *Sidewinder* is the most widely used air-to-air guided missile in the U. S. Fleet, and is also used by the Air Force and Marine Corps. It is the only U.S. air-to-air missile in production for use by foreign countries and also the first guided missile to have destroyed an enemy aircraft under actual combat conditions. Chinese nationalists used *Sidewinder* during the Quemoy crisis in 1958 and were delighted with it.

A new *Sidewinder*—*Sidewinder IC*—is now under development at NOTS China Lake, Calif. It will provide higher speed and greater range than the present version.

SPARROW III might be considered as a big brother of *Sidewinder*. It is about 12 feet long, eight inches in diameter, and weighs 380 pounds. Also an air-to-air missile, it travels at more than 1500 miles per hour to reach a ceiling of more than 50,000 feet. One version of *Sparrow* is powered by a solid-propellant rocket but, unlike *Sidewinder*, is guided by an electronic-controlled homing device.

Another version of *Sparrow III* will include a new pre-packaged liquid-propellant engine and will be launched by the supersonic, all-weather F4H-1 jet fighter. The new self-contained liquid engine system incorporates tankage, propellants and thrust chamber in one unit, ready for firing after assembly with warhead and airframe. It can be stored aboard ship for indefinite periods. *Sparrow III* became operational in August 1958 and replaced *Sparrow I*, which has been phased out of production.

TALOS, a ship-to-air missile, is a relatively big boy. Capable of traveling at supersonic speeds, it can attain "extremely high" altitudes, with a range of over 65 miles. About 30 feet long, it has a diameter of 30 inches and weighs about 7000

pounds including booster. Powered by a solid-fuel rocket motor for the first few seconds, it is then pushed onward by a 40,000-hp ram-jet engine. Directed by a beam-riding guidance system, it carries either a conventional or nuclear warhead.

Although primarily a ship-to-air missile, *Talos* can also be used against ships and shore bombardment targets. The principal armament of the guided missile cruiser USS *Galveston* (CLG 3), *Talos* represents some 13 years of research and development. It was first fired at sea by *Galveston* on 25 Feb 1959. In addition to *Galveston*, six additional cruisers including the nuclear-powered *Long Beach* are at present undergoing construction or conversion and will have *Talos* capability.

TERRIER is, perhaps, one of our more familiar missiles. Three guided missile cruisers, one guided missile destroyer and one guided missile frigate, armed with the missile are in commission. Three carriers, three cruisers and 19 frigates now under construction or conversion will have *Terrier* capability.

A ship-to-air supersonic missile which has greater altitude than conventional antiaircraft guns. *Terrier* has a range of about 10 miles. About 15 feet long (27 feet, with booster), one foot in diameter, it weighs about one and one-half tons, including booster. Carrying a conventional warhead, it is powered by a solid-fuel rocket motor and is guided by a radar beam-riding system.

A later model of *Terrier*, incorporating improved guidance features, is in production for both the Navy and Marine Corps. It will supersede the present weapon which has been operational since 1956.

Terrier is suitable for shipboard use or for beachhead operations. Shipboard missiles are selected automatically from the magazine and loaded on the launcher which is then automatically trained, elevated and fired.

That's the roster of the Navy's

F3H-2 FIRES salvo of *Sparrow III*s





F8U-2N Corsair carries four Sidewinders



F4D Skyhawk fires Zuni rocket

operational missiles. In addition, three rockets—Weapon Alfa, HVAR and Zuni—are also operational.

WEAPON ALFA (formerly known as *Weapon Able*) is installed on destroyer escorts and is fired from a launcher resembling a conventional gun turret. A special fire control system aims the rocket at enemy

submarines. The surface-to-underwater rocket gives destroyers greater range and latitude of attack by removing the necessity of positioning the ship in the immediate area, as is necessary with depth charges. The rocket turret can be trained in an almost complete circle, enabling a ship to fire the rocket as soon as an enemy sub is located. The rocket

sinks more rapidly and covers a larger area than the old type depth charges.

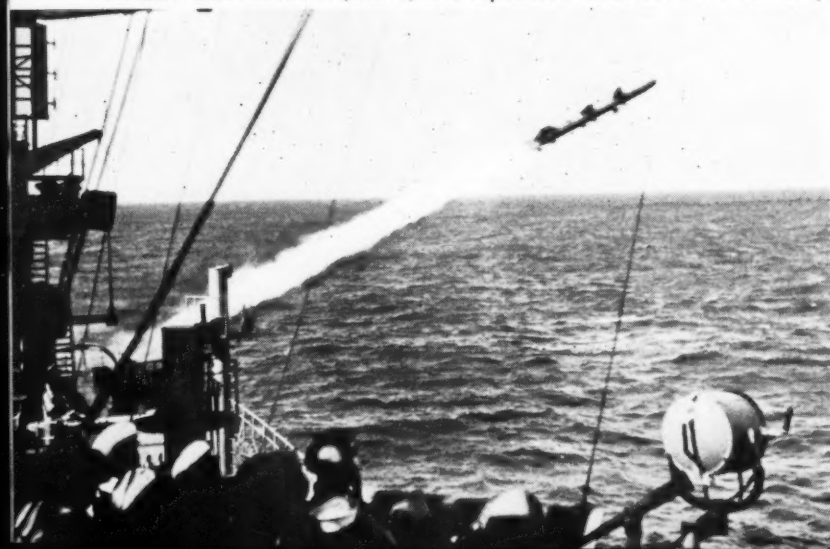
Equipped with a conventional explosives charge, *Alfa* has a length of eight and one-half feet, is slightly more than a foot in diameter and weighs about 500 pounds. Its range is variable.

HVAR (high velocity aircraft rocket) is the granddaddy of them all. A World War II weapon known as "Holy Moses" because of its powerful blast, this model has been out of production since 1955. An air-to-air rocket with a conventional warhead, HVAR travels about 1500 feet per second. It is six feet long, five inches in diameter and weighs about 140 pounds.

ZUNI was built to replace HVAR in high speed aircraft. An air-to-surface all-weather rocket used by attack type aircraft, *Zuni* is intended for use against tanks, pillboxes, gun emplacements, trains, motor convoys, ammunition and fuel dumps, and small ships. As many as 48 *Zunis* can be carried by the AD-type aircraft. The launcher, which holds four rockets, is also used for transporting and storing the rockets. The launcher can be jettisoned after firing, to increase the speed of the plane.

Slightly less than 10 feet in length, the rocket is five inches in diameter, weighs a little over 100 pounds, has a range of five miles and travels just twice as fast—3000 feet per second—as HVAR. Its conventional warhead can be armed with various

AT SEA—USS *Galveston* (CLG 3) fires supersonic *Talos*. Rt: HVAR rocket, replaced by *Zuni*, is seen in early test-firing.



types of heads, including flares, fragmentation and armor-piercing.

A number of new weapons are also under development. Some are at the early research and development stage; others are well into production.

ASROC, for example, is a solid-propellant rocket torpedo, fired from surface ships, projected to the target area and, upon entry into the water, becomes an acoustic homing torpedo. It is scheduled for installation aboard cruisers and destroyer-type vessels.

CORVUS is an air-to-surface weapon for use in penetrating defended areas as well as for attacks against surface ships. It is designed to permit its use on carrier-based aircraft. Equipped with a liquid-propellant rocket power system, it travels at supersonic speed with a range of more than 100 miles. Flight tests were begun at Point Mugu, Calif., in 1959.

EAGLE, now in the early phase of development, represents a new trend in air-launched guided missiles, in that the launching aircraft may be relatively slow, since the high performance will be built into the missile instead of into the manned aircraft.

POLARIS is, of course, the Navy's darling. It is a deterrent/retaliatory missile designed primarily for launching from Fleet ballistic missile submarines, specifically designed to launch this missile. It may



Corvus will be new air-to-surface weapon



Bullpup is Navy's operational air-to-surface missile

be fired from the sub while surfaced or submerged. Launching can also be done from other types of ships or from shore installations.

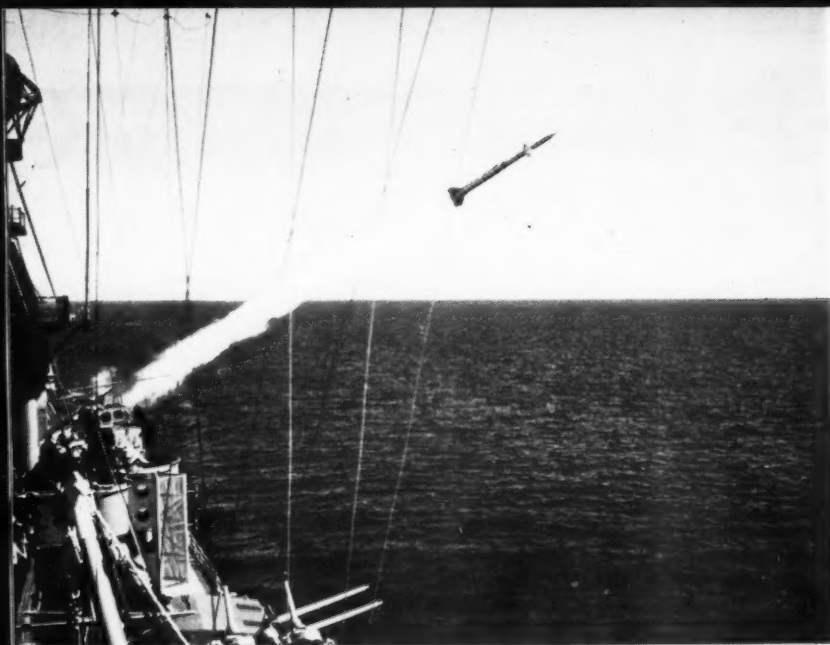
The missile is ejected from its launching tube by inert gases which propel the missile above the water where the rocket motor ignites. With an initial range of 1200 miles, later

to be increased to 1500 miles, *Polaris* will be basically a projectile traveling a ballistic path through space, lifted to altitude and set on course by its original propulsion and guidance components, and then governed by natural forces, such as gravity, on its way to the target.

Sixteen can be carried on a sub.

TROUBLE BELOW—Weapon *Alfa* takes off after sub. Rt: *Tartar*, smallest ship-to-air guided missile, is test-fired.





MISSILE MAGIC—This Terrier-guided missile, launched from USS Canberra (CAG 2) was shot across International Date Line so it hit day before fired.

Present shipbuilding programs have authorized construction of nine nuclear-powered *Polaris*-firing submarines (SSBN). The 1961 budget includes a request for authorization for three additional subs and funds for long lead items for three more.

Polaris will be operational in 1960.

SUBROC is a guided missile under development for antisubmarine warfare. It is a missile fired from a submerged submarine torpedo tube, programmed through the air to re-enter the water to kill another sub. The *Subroc* system can detect a submarine at long range, compute its course and speed, and fire the missile. Capable of carrying a conventional or nuclear warhead, it provides ranges much greater than the present ASW torpedoes.

TARTAR is now in production. It is the smallest missile of the ship-to-air series designed primarily to fit on destroyer-type ships or as secondary battery on larger ships. It is effective against both low- and high-altitude targets. A supersonic missile approximately 15 feet long and slightly more than one foot in diameter, it has a range of more than 10 miles.

Equipped with a dual thrust solid-propellant rocket motor for a guidance system, the missile carries a conventional warhead.

USS *Norton Sound* (AVM 1) has been test-firing *Tartar* off the California coast for the past year. *Tartar* is programmed for 21 destroyers and three cruisers now under construction or conversion. The first of these joins the Fleet this year.

TYPHON Weapon System, now in the early research and development stage, will be the Navy's ship-to-air missile system of the future. It will take advantage of as many improvements for its components as are available. The name *Typhon* System has superseded the designation Advanced Weapon System which referred to improvement programs for *Talos* and *Tartar* missiles. *Super-Talos* has been re-named Long Range *Typhon* and *Super-Tartar* is redesignated Medium-Range *Typhon*.

And, to conclude, here's a brief roundup of rocket and missile programs which have been phased out, cancelled, or are inactive:

Sparrow I was an air-to-air missile which became operational in the Fleet in the spring of 1956 and is now phased out of production and superseded by *Sparrow III*.

Sparrow II was an air-to-air missile which was developed as an experimental missile and not intended for Fleet use.

Petrel was an air-to-surface missile, designed for use against subs and surface ships which became operational in the Fleet in 1956 but later was phased out of production.

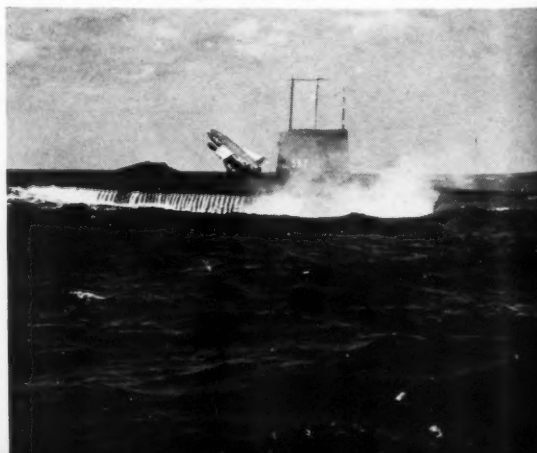
Regulus II, a ship-to-surface missile, was under production when the program was cancelled in 1958 because of the rapidly changing technology in the missile field.

Triton, another ship-to-surface missile, was cancelled in September 1957 while still under development.

Rat was a surface-to-underwater rocket-thrown torpedo which was cancelled in January 1959 because of superior antisubmarine weapons under development.

Gimlet is an air-launched rocket which has tentatively been placed in an inactive status.

SUBPAC POWER—USS Growler (SSG 577) and USS Halibut, SSG(N) 587, ready to fire *Regulus I* in Fleet exercises.



SubPac's Missile Warriors

WITH THE ARRIVAL of the nuclear-powered guided missile submarine USS *Halibut*, SSG(N)587, at Pearl Harbor, Hawaii, this spring, the defense system of the Pacific Fleet has been strengthened to include all five of the Navy's guided missile submarines. The four other formidable creatures of the deep—equipped to launch the potent, 500-mile range *Regulus* missiles—are *Growler* (SSG 577), *Grayback* (SSG 574), *Barbero* (SSG 317), and *Tunny* (SSG 282).

While the *Halibut* holds claim to being the first nuclear submarine designed specifically to carry, launch and guide missiles, the *Grayback* was constructed as the first conventional (as opposed to nuclear) missile-launching sub, followed by her sister-ship, *Growler*. The *Tunny* and *Barbero*, originally Fleet Types, were converted to missile-launching vessels.

The submarine-guided missile combination is an important segment of the Navy's powerful air, surface and sub-surface team in the struggle to maintain freedom of the seas. And for some very sound reasons: A *Regulus* surface-to-surface missile can be launched from a submarine within minutes after surfacing. The submarine can approach a target with less risk of being detected than the larger ships of the Fleet. For all practical purposes, it cannot be seen, detected by radio or radar. It can only be found by underwater sound detection.

The *Regulus* missile in itself is a small but powerful weapon. Incorporating an electronic guidance system, it is a high performance sub-



BACKING IN—Regulus I guided missile is loaded into the deck hanger aboard USS *Tunny* (SSG 282), one of SubPac's five missile submarines.

sonic jet aircraft that can carry a nuclear warhead. It was the first operational attack missile used in the Navy and has been in the Fleet since 1954. The *Regulus* can also be launched from cruisers and aircraft carriers.

The operations involving the five missile-launching subs in the Hawaiian area have been designed with several objectives. The primary concern is to develop a high state of proficiency for landing the missile on target.

During a typical operation, a submarine would launch a training missile (minus warhead) and guide it. During the flight guidance control

might be shifted to a second sub.

The controlling submarine simulates an explosion over the target by signal and transfers control of the missile to chase aircraft, which guide and land it on the Auxiliary Landing Field at Bonham on the Island of Kauai.

The aircraft, attached to Guided Missile Group One at Barber's Point Naval Air Station, near Pearl Harbor, provide chase and recovery functions for safety considerations. In the event a missile develops a malfunction, creating a hazard to land areas, shipping, or airways, these planes can guide it to a safe area and destroy it.

Because of the heavy air traffic in the vicinity of the Hawaiian Islands, these operations are coordinated with the Federal Aeronautics Administration.

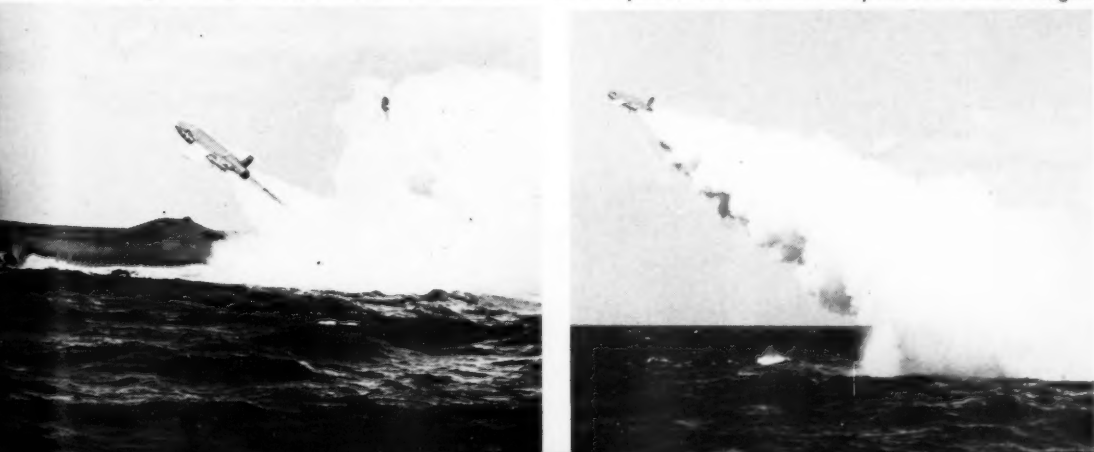
The actual launching of the *Regulus* from a submarine is basically no different from the launching from a surface ship or from land; however, the submarine requires extra time for surfacing and transferring the missile from hangar to launcher. But the specially trained officers and men of Submarine Squadron One have developed a speedy coordination that enables them to do the job without delays.

The union of the submarine and the missile is a potential that is not a dream of the future. It is here today—ready to help protect the freedom-loving people of the world.

The pictures below show the *Regulus* submarine team in operation at sea. They have a potent punch—and *Polaris* is still to come.

—Bud Thomas, JO3, USN.

BLAST OFF—*Regulus I* gets JATO boost from sub until its own power will take over to speed it to distant target.





Who's Going to Ge

ABOUT ONE OUT OF every 13 enlisted men in the Navy is authorized to wear the Navy "E"—the symbol of operational excellence.

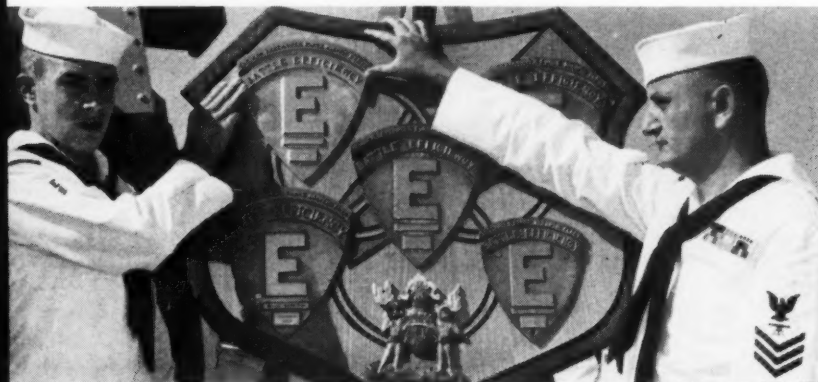
Some of these 50,000 Navymen—distinguished by the block letter

of the crew of any one of the ships that did not win the over-all Intra-Squadron Battle Efficiency Competition, but did win one of 13 annual type commander proficiency awards. These go to gunnery or missile-launching crews, communication gangs, ASW teams, assault boat crews, or the personnel of operations, engineering or air departments that excelled all other units in their class during a full year of intra-force competition.

Just what's behind all this competition and how do these Navymen earn this special distinction?

Organized competition, as we know it today, goes back to the 1880s when Commodore Stephen B. Luce, USN, commanded the U. S. Training Squadron. At that time he organized training cruises and devised war games—certain that seamen as well as officers would benefit by sham battles and competitive maneuvers.

This form of training paid off in the Spanish-American War. But observers could not help wonder what would have happened had the Navy



Echo worn on the right sleeve of the uniform—comprise the crews of the outstanding ships in both the Atlantic and Pacific Fleets which have won the Battle Efficiency Pennant.

Others may be selected members



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encountered enemy forces that were properly equipped and trained. They were convinced that the results would have been much different.

Luckily, there was a person deeply concerned over the Navy's shooting eye. Reviewing the Navy's gunnery record during the Spanish-American War, LT William S. Sims, USN, was shocked to learn that, of 9000 projectiles fired during the battle of Santiago, only 120 hits had been scored by the Fleet. This was a little less than excellent.

to Get the Big 'E'?

Operating somewhat out of normal channels, he risked his career by inviting President Theodore Roosevelt's attention to this unhappy situation. As a result, Sims was appointed Navy Inspector of Target Practice, a job he held for six years.

During this time, he revolutionized Fleet gunnery, influenced the design of our first all-big-gun battleship, and introduced new and improved destroyer tactics. Reforms in rangefinding, spotting and target practice were adopted.

Sims was also primarily responsible for introducing a competitive spirit among the gun crews of the Fleet. Gunnery prizes were offered, and records for all calibers were broken every year. In 1903, the Fleet average for all guns was approximately 40 per cent; in 1906, it was up to about 78 per cent. When Sims left the Target Practice Office in 1909, the U. S. Navy led the world in gunnery.

Emphasis on Fleet gunnery competition continued until World War II. Members of gun crews and turret crews were the only persons awarded prize money.

Following the war, the Chief of Naval Operations decided that training emphasis should be placed on improving the readiness of entire ships instead of individual departments. In 1947, on the basis of this philosophy, CNO established inter-type battle efficiency competition.

At the end of each competitive year, CNO would select the winners from the ships recommended by the type commanders. The ship that won this annual competition was authorized to display the Battle Efficiency Pennant and the Navy "E." Prize

money was paid to the enlisted members of the crew. This inter-type competition was conducted during fiscal years 1948, 1949 and 1950. It was discontinued when hostilities broke out in Korea.

Since the end of the Korean conflict, resumption of CNO-sponsored inter-type competition has not been feasible. In 1956, however, CNO ordered the type commanders to sponsor their own intra-type competition, and authorized the display of the Battle Efficiency Pennant and

the Navy "E" by the winning ships.

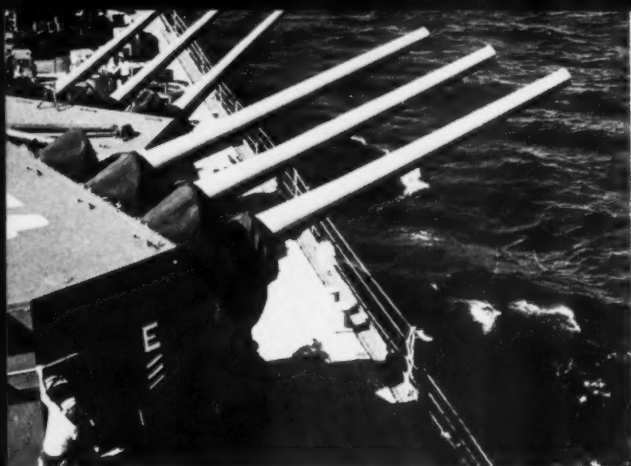
Today's competition — conducted by the type commanders — consists of an intra-squadron competition in which the ships of each squadron compete among themselves, and intra-force competition in which all ships of the same type compete among themselves.

Let's take a look at the competition conducted annually by the Atlantic and Pacific Fleet Destroyer Force commanders.

In the intra-squadron competition, the ships of each destroyer squadron and each escort squadron form a single competitive group and compete with each other. This Battle Efficiency Competition runs from 1 July to 30 June of each fiscal year. It is carried out under the general direction of the force commanders (COMDESLANT and COMCRUDESAC) and under the general guidance of the commander of the flotilla to which the squadron is assigned (DESFLT 2, 3, 5, etc.).

The squadron commander is the Officer Conducting Competition (OCC) for each competition group. All ships must complete certain required exercises in gunnery, engineering and damage control, air defense, CIC and communications operations and antisubmarine warfare. The required exercises for all DD, DDR, DDL and DDE types, for example, include drills in surprise air attacks, AA target designation and acquisition, long- and short-range gunnery practice, full-power and smoke-prevention runs, two economy trials at speeds of 15, 20 or 25 knots, over-all communication performance, aircraft control and interception, damage control during an atomic





Excellence in Gunnery



Excellence in Communications

attack, and single and dual ship ASW action.

In addition to these exercises, each ship is marked on over-all seamanship and navigation, including the training of junior officers in ship-handling; as well as general smartness, cleanliness and shipkeeping ability displayed during the entire year. These factors are considered a part of over-all battle efficiency.

The OCC submits graded reports on each of the competitive exercises to the force commander, who determines the final official standings for each competitive group in the intra-squadron battle efficiency competition. The winners of this annual competition are usually announced in August of each year.

The ships winning the intra-squadron battle efficiency competition are authorized to display for one year, the *Battle Efficiency Pennant* and the white *Efficiency "E."* This is painted on both the port and starboard sides of the bridge bulwark.

In addition, the force commander

may also present a suitably engraved bronze plaque to each of the winning ships. This plaque becomes the permanent property of the ship and is usually mounted on the quarterdeck or other appropriate place for the benefit of the ship's crew.

The commanding officers of the ships that win the intra-squadron competition usually receive a letter of commendation from the force commander and each enlisted member of the crew is authorized to wear the Navy "E" as part of his uniform while serving in the winning ship.

The enlisted men assigned to the ships that win this year's battle efficiency competition, which ends on 30 Jun 1960, will receive a free set of seven "E's"—one of appropriate color for each coat, jumper or blouse as required by current *Uniform Regulations*.

In addition to the awards for over-all excellence determined through intra-squadron competition, all ships of the Fleet are eligible for recognition within their respective type

commands by excelling in intra-force competition.

Competition on the intra-force level is based on excellence in:

- **Gunnery**—The White "E" is awarded to the individual mounts and crews of three-inch and larger guns; three-inch rapid fire guns; 40mm and smaller guns; and control parties of primary surface directors and surface torpedo batteries that score a merit of 100 per cent in specified exercises.

- **Antisubmarine Warfare**—The White "A" is awarded upon achieving a total score indicating excellence in certain ASW exercises.

- **Surface-to-Air Missile Systems**—The White "E" is awarded to units completing required missile and air defense exercises with an average merit of 95 per cent on all non-firing exercises and 95 per cent on three-fourths of the firing exercises conducted during the competitive year.

- **Engineering**—The Red "E" is awarded to those ships achieving a

Excellence in Minesweeping



Excellence in Assault Boat Operations



total score required exercises, engine and fuel

- **CI** is awarded required

- **Co** "C" is a required major discrepancy violation

- **Mi** is awarded receive a for Outstanding Readiness major minesweeping fore the mine command required training with no an over-

- **Ass** Assault



Excellence in Engineering



Excellence in CIC Operations

total score indicating excellence in required engineering casualty exercises, engineering trial performances and fuel performance ratios.

- **CIC Operations**—A Green "E" is awarded to those who excel in required CIC exercises.

- **Communications**—The Green "C" is awarded for excellence in required communications exercises. No major communications operational discrepancy nor major cryptographic violation is permitted.

- **Minesweeping**—A White "M" is awarded to minesweepers that receive a final grade of either Excellent or Outstanding on the Operational Readiness Inspection; have had no major discrepancies noted on the minesweeping trials conducted before the ORI; and completed all the mine countermeasure exercises required by the type commander's training and competition instructions with no grade lower than good and an over-all average of excellent.

- **Assault Boat Operations**—The Assault Boat Insignie is awarded to

landing craft that score 90 or better in boat control, debarkation, unloading exercises and beaching tactics.

- **Air Operations**—A Yellow "E" is awarded to the Air Departments that achieve a total score indicating excellence upon completion of required air department exercises and a final grade of Excellent or Outstanding in ORIs.

The "E" insignia will be displayed by each ship that excels in competition during the periods established by type Commanders.

Chapter 19 of *BuShips Manual* spells out in detail the size, location and painting specifications for each efficiency insignia.

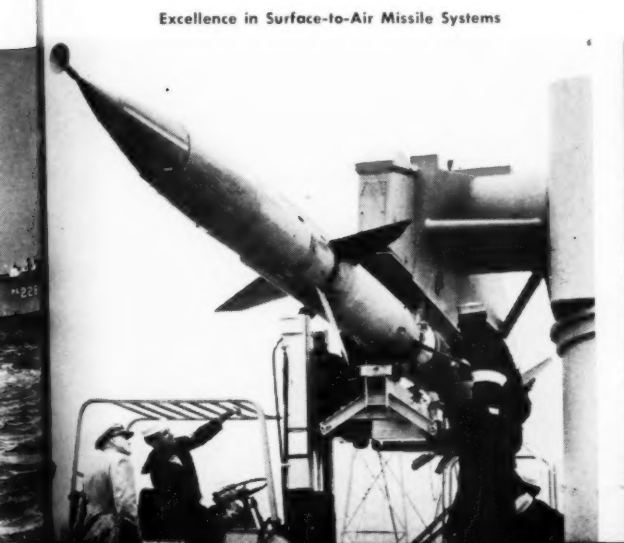
The "E" can also be part of the Navyman's uniform.

Enlisted personnel assigned to the mounts, crews or shipboard departments that win any of the 13 intra-force awards listed above may be authorized by their respective type commander to wear the Navy "E." It's a real sign of excellence.

—H. George Baker, JOC, USN.



Excellence in Antisubmarine Warfare



Excellence in Surface-to-Air Missile Systems



Excellence in Air Operations



Amphibious As

Uss *Princeton* (LPH 5), a name well known in the Fleet's operating forces, is now serving with the Seventh Fleet as an Amphibious Assault Ship after having been converted from an ASW carrier.

Princeton's prime purpose is to carry troops and helicopters for use in vertical envelopment assault operations. To do this her ship's complement, unlike that in most Navy fighting ships, is two-thirds Navymen and one-third Marines who are integrated into the ship's various departments. During exercises *Princeton*-based copters rise from the flight deck to deliver assault troops and equipment behind enemy lines as part of the vertical envelopment theory in amphibious assault. In this theory helicopters capable of any direction of flight as well as hovering take-offs from the ship with troops and fly over the fortified beaches to land Marines who will attack the enemy from the rear, seize critical points, cut enemy supply lines and sever communications.



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us Assault Ship

uss *Princeton* (CV 37) was originally named *uss Valley Forge* but when her predecessor (CV 23) was sunk *Valley Forge* still under construction was renamed. *Princeton* was commissioned in 1945 and in 1953 designation was changed from CV to CVA. *Princeton* next served with the Antisubmarine Warfare forces as a CVS until assigned the latest job as a LPH with the Pacific Fleet Amphibious Forces.

Clockwise from upper left: (1) Equipment is secured to copters for lift to beach. (2) Jeep is loaded for trip to shore. (3) *uss Princeton* (LPH 5) prepares to launch copters. (4) Marines roll artillery piece aboard *Princeton*. (5) Marines move out from cat walks to board whirlybirds. (6) Assault area receives another delivery from *uss Princeton*. (7) HR2S helicopters keep equipment and troops dropping into assault area behind enemy lines. (8) Copter is refueled by Navy gas crew as Fleet Marines board for next flight to shore.





NAUTICAL-MINDED—Norwegians have a great natural interest in the sea. Here, highline transfer takes place to DD.

NORWAY'S NAVY

WHEREVER THE SUN SHINES, you can bet it will shine on a Norwegian flag. You can even bet that the quarterdeck watch of a Norwegian navy ship will have the sun shining in their eyes during the mid-watch.

You would win both bets. Here's why: Norway has the third largest merchant marine in the world. Norwegian maritime ships visit practically every major (and minor) port in the world, and are constantly on the move. Next time you enter a port, whether it be in the Med, out in Asia, down in Africa, way down in Australia, or South America or

Stateside—look around, and the odds are that one or more of the ships you see will be of Norwegian registry, flying the Norwegian flag.

The odds are, also, that serving in the something around 10 million tons and 2600 ships of the Norwegian merchant marine are officers and men who have served or will serve in the Royal Norwegian Navy.

WHY WOULD the men on midwatch have the sun shining in their eyes?

One of the duty stations of Norwegian naval ships is off the North Cape (Nordkapp). It's pretty far

north—the same latitude as off Point Barrow on the northern tip of Alaska—and, from the middle of May to the end of July, the sun doesn't set.

Norway is divided into five naval districts: Southeast; South; West; Central, and North. North Cape is in "Naval District North." Trondheim to the Arctic Circle is "Central." Norway, in short, is pretty far north itself. As a result, ships of the Norwegian Navy are sometimes in for some rugged duty.

It's a small navy—about 4000 officers and men on active duty, with about 58 active ships. The destroyer-type is the largest in the Norwegian navy. Their NATO task is to support approaches to Norway. "Our main task," said one senior officer, Captain Andr. Stang, RNoN, "is to provide naval support for northern Norway."

Norwegian sailors who visit Naval District North see some interesting scenery. They pass areas where tidal bores come out at 35 knots. They pass—not too closely—the famous Maelstrom, near the Lofoten Islands.

FRIGATES like KNM *Haugesund* (F 312) provide naval support for Norway.



ALL HANDS

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JULY

They view hundreds of fjords and thousands of islands. They go ashore with medical supplies, when needed. They sometimes play soccer, up beyond the Arctic Circle, as part of their shore liberty.

These visits are in support of the Norwegian fisheries and fishermen.

WITH THE NAVY, the merchant marine and the fishermen, it seems as though almost every male Norwegian is a sailor. "Our king is a sailor, too," they'll tell you, "and so are most Norwegian men."

Potentially, therefore, Norway has a large navy. There is a distinct tie-in with the merchant fleet. Most of the men serve two years before the mast in the merchant marine before they become sailors, and serve their 18 months of National Service. All merchant marine masters and chief engineers have started at the bottom. So have the naval officers. They serve a year and a half before the mast and then go on to the Norwegian Naval Academy.

The backbone of the Norwegian navy are the six-year career enlisted men who train for petty officers. Many of them go on to a commission. To get a commission, they go to the Academy for three years and come out as sub-lieutenants. Then, after two years' postgraduate work, they are promoted to lieutenant.

Boot camp is at a station called "Harald Haarfager"—a name well known to you if you've read up on Norway. It's located at Stavanger. Two other training stations are at Horten and Bergen. Bergen will, from the fall of 1960, also become the site of the Naval Academy.

IF YOU'VE HAILED out a chart by now, to look up these place names, you'll see that everything is way up north.

Look for Bodo, near the Arctic Circle. That's almost "Central." Ships going farther north, around to Nordkapp, go for a three-to-six-month tour. Then they head south for fishery-inspection duty, control-of-shipping duty—and training. Chances are, then, that a man who has served in the Norwegian navy has a few things he can tell you about snow, ice, fog and dangerous navigation—even if you've been to Thule or Antarctica, Point Barrow, or—under the Pole.

Counting the training cycle, duty in the Norwegian navy is half sea and half shore, approximately. At

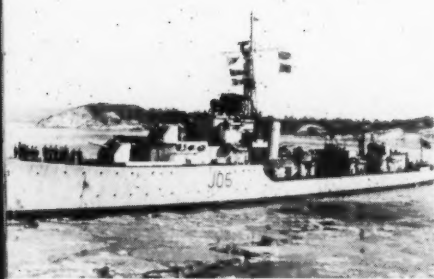


FUTURE GUNNERS—Norwegian sailors receive instruction in gunnery at Horten Training Center. Below: Nordic Navymen in training pull whale boat.



FLEET MINESWEEPER KNM Glomma (M 309) cruises along Norway's coast.





DES. KNM Stavanger (top) and sub KNM Kya are typical Norwegian ships. Below: DD men stand quarters.



RUGGED COAST and icy water make men like this MTB crew sharp sailors. Rt: Seaman at radio school takes a break.



SOUND OFF—Norwegian petty officer drills recruits at boot camp. Norway's navy has three training centers located at Stavanger, Horten, and Bergen.

sea, it's small-ship duty—some of the best training there is in real seamanship for all hands.

The Norwegian Navy has destroyers, frigates, submarines, mine-sweepers, minelayers, depot ships, landing craft, repair ships, and two ex-frigates used as weather ships.

Also, as you would guess, they have motor torpedo boats. The Norwegian naval architects have developed a new class of MTB called the "Nasty" class—68-ton, 80-footers—with a speed in the neighborhood of 40 knots. They are wooden, twin-shaft, and diesel-powered.

KNM NORGE, the royal yacht, was purchased by the Norwegian people for their late king, Haakon VII. The present king of Norway,

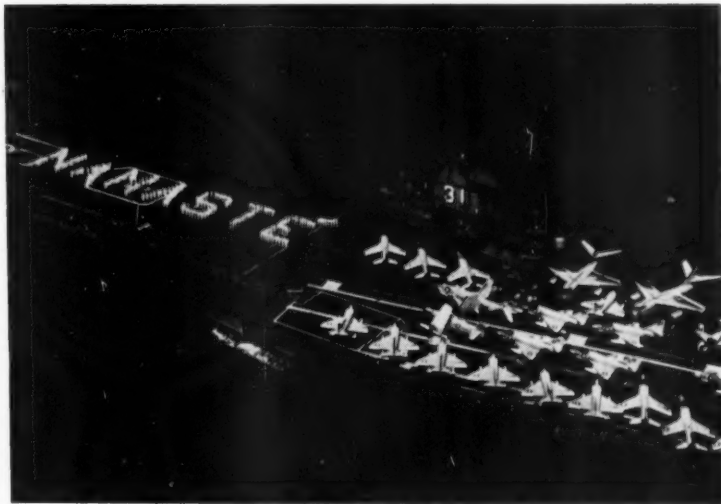
King Olav V, is their "sailor king," and is very close to the sea and ships. He has often visited foreign naval ships, and takes a keen interest in the navy and merchant marine. King Olav V was one of the first to go on board *uss Skate* when she arrived in Norway after her famous crossing under the icecap.

As yet, Norway has no icebreakers. A great deal of their long coast is kept warm (relatively, that is) by the Gulf Stream.

With the many fjords and islands of their coastline, you can make one further bet—the Norwegian ships and crews have many chances to exercise their seaworthiness and seamanship—both world-famous.

It's a shipshape and seamanlike navy, down the line.





HELLO INDIA—Navymen on liberty visit park in Bombay. *Rt:* Carriermen spell out 'Namaste,' an Indian greeting.

A Visit to India

AS NAVYMEN from four U.S. ships passed through the massive arch at the fleet landing in Bombay, India, they noticed the inscription read "Gateway of India" and at the end of their five-day visit, all agreed that it was also the gateway to good liberty.

The men from *USS Bon Homme Richard* (CVA 31), *USS Valcour* (AVP 55), *USS Morton* (DD 948), and *USS Hamner* (DD 718) saw many strange and interesting sights as the old Far East mingled with the present. Ox carts jammed the streets as automobiles honked to pass and natives in ancient dress

mingled with people in modern attire of the western world. The sailors visited Kamala Nehru, a beautiful park overlooking the city, as well as the hanging gardens of Bombay and shopped in the cities' many bazaars.

COMCRUDESPEC's band and that of COMCARDIV One gave concerts nightly throughout the city. Visits and sporting events were held between the U.S. Navy and Indian Navy and when it came time to up anchor, men of both navies had a better understanding about each other's country and their sea service on different sides of the globe.



SOUVENIRS are purchased and sights of Bombay are visited. Above: Fleet landing is called 'Gateway to India.'



JULY 1960





Camping Out with Lorac

THE TERM Lorac isn't one that you will find in the dictionary, but to the officers and men of the Navy's Lorac Support Team Seven, home-based at Pearl Harbor, it is the rugged, he-man, outdoor type of duty that counts and the definition is secondary.

According to the U. S. Navy's definition, Lorac is a "hyperbolic phase-comparison system of radio navigation." The name is derived from the initial letters of the words Long Range Accuracy. The system makes it possible to determine the position of a ship or aircraft by comparing the phases of radio signals received from at least three independent, but co-ordinated shore-based transmitting stations whose positions are known. Meaning simply that Lorac is a long-range naviga-

tional aid for ships sailing the high seas.

In addition to Lorac, the Support Team also operates Shoran (*SHOrt RAnge Navigation*) and EPI (*Electronic Position Indicator*), both supplementary navigational aid stations.

Working out of Pearl Harbor under the operational control of Commander, Hawaiian Sea Frontier, the team is deployed periodically to various areas in the Pacific Ocean in connection with the Pacific Missile Impact Location System. Most of the time, the station sites are bleak, inhospitable, almost inaccessible and populated chiefly by insects and a wide variety of birds.

The team usually operates with an LST which is assigned as support ship for operations in the field and for transporting the tons of equip-

ment utilized in the operation.

Placement and back-loading of Lorac team station equipment at isolated island or reef locations is effected by U. S. Marine-manned amphibious tractors with U. S. Navy helicopters acting in a supporting capacity.

The helicopters off-load light equipment and serve as personnel lifts. In case of medical or personnel evacuation from an isolated station, a helicopter is always ready for immediate deployment to the area.

Helicopters are also used for all-important mail delivery and the hauling of supplies to the various camp-sites.

While deployed in the field, Lorac Support Team Seven is normally split up into six separate camp-sites, each of which is a completely self-

HOME ON THE RANGE—LORAC team sets up camp tents and off-loads supplies on an isolated Pacific island.



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sufficient unit. Each unit has four tents, usually two sleeping tents, a galley and messing tent and one equipment tent.

The tents are 16 by 16 feet, of the pyramid type. Sheets of plywood are used for flooring. The men assigned to the camp use cots with rubber air mattresses and sleeping bags.

Each camp has an electric refrigerator and an apartment-size gas range equipped with butane burners for cooking.

Communication and power-generating equipment is carried in each camp, as well as general-purpose tools for work about the camp and special tools and test equipment for the maintenance of the electronic gear.

Equipment requirements of an individual camp range from the necessary electronics equipment involved, to a simple can opener; the electronics equipment itself being only a small part of the total.

Each camp has a one-and-a-half-ton water trailer (400 gallon capacity) to supply water for cooking, drinking and bathing. The "water buffalo" is a vital part of each camp-site or station.

Preservation of food and water, as well as storage and economical use in the intervals between supply trips, sometimes presents a major problem—one that the men of Lorac Support Team Seven have learned to solve without difficulty.

Enlisted personnel in each camp normally perform duties in accordance with their ratings, although whenever the camp is being established or being disestablished to move to another location, all hands,

including the cook, work side by side until the camp is once again in an operating status.

A chief petty officer is usually in charge of each camp. He is responsible for the installation and proper functioning of the unit in his charge.

The officer-in-charge of Lorac Support Team Seven normally makes his headquarters at the most centrally located camp in the Lorac network. In remote areas, he may locate his headquarters aboard the support ship in order that he may expedite communications and logistic support.

The assistant officer-in-charge, an electronics officer, is a sort of roving troubleshooter for the team within the entire camp network.

He acts as the technical adviser on network operations as well as supervising the overhaul and upkeep of equipment.

A limited amount of recreational equipment is supplied to each camp.

However, since each camp has an average of six men and the camps are usually widely dispersed, the men rarely have an opportunity for any organized recreational activity.

Most of the men become very adept at swimming and skin diving and some even become avid beachcombers.

Discomfort and hardship are almost automatically associated with Lorac Support Team Seven in the field, but according to the officer-in-charge, Lieutenant Jerry T. Middleton, USN, you very seldom hear anyone voice any dissatisfaction with the team or ruggedness of the duty.

Just ask for a volunteer for any job and regardless of the task, you're likely to have the whole team volunteer.

This amply describes the spirit of the officers and men of Lorac Support Team Seven — rugged and ready!

—Ken Orr, JO1, USN.

NOTHING ATOLL—When pulling duty on desolate Pacific islands LORAC team members often find old gun emplacement the only thing to write about.



Black Dog: the Tale of a Hound

From time to time in these columns we've made reference to Black Dog—to us, one of the most interesting characters we've encountered. Here are the details of his career, by one who knew him much better than anyone on the staff:

IN HANGAR FIVE at the Naval Air Station, Lakehurst, New Jersey, beside a roped-off portion of con-

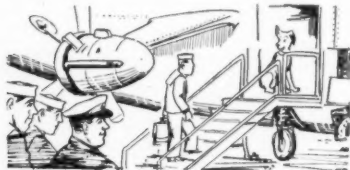


crete that is designated as the ZP-3 quarterdeck, stands a small gravestone with the following inscription: "BLACK DOG, 1939-1957, A Good Shipmate."

To many officers and sailors of Airstrip Squadron Three, the installation of this stone created a great deal of curiosity, since the men who knew Black Dog are now scattered throughout the Navy. Only a few remain to tell his story.

It all started back in 1944 when a small ugly dog decided to join the Navy. At Fishers Island, New York, outside New London harbor, was stationed a detachment of Navy "G" type airships. Since sailors are inclined to adopt stray dogs, ugly or not, this homeless mutt was taken into the outfit.

He had short hair which was black on his head and back, and fawn colored on his chest and belly (when he was clean). He walked on four bow legs and had a whip-like, almost hairless tail. One ear was split



and flopped over, while the other stood erect. He was about the size of a small boxer or bulldog. His age could only be judged by his Navy battle scars. He looked as though he had walked into a turning propeller and survived.

A singular thing about him was

his complete independence. He certainly knew his way around, and he never failed to turn up at the right place to be fed, or to be taxied to his next destination by the proper vehicle. He liked enlisted men. He was completely indifferent to officers, chiefs and civilians.

Details of Black Dog's life at Fishers Island, and later at Airship Patrol Squadron 12 in South Weymouth, Mass., by this time, are somewhat vague. It is known that he made occasional airship flights and became an expert ground handler. For those who don't know what a ground handler might be, it is best explained that they are the men who tend the lines of an airship during landings and take-offs. In many cases they used to pull a "light" airship literally right out of the sky. Black Dog was always the first to grab the bitter end of the line and the last to let go of it.



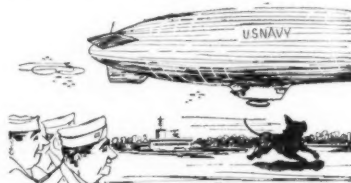
To some this was a source of amusement—to others he was a nuisance. However, Black Dog was always there, tugging on his portion of line. In summer or winter, night or day, in rain or snow, if you were end man on a line you could always feel the downward tug of a growling dog.

During take-offs, after the ship had made headway down the mat, Black Dog would always drop his line and run between the two dragging shortlines until the airship took off over his back. Th's action was so regular that a new boot in the squadron believed that Black Dog was showing the pilots the upwind direction off the mat.

Once, however, he was h't in the back by a ship's wheel which caught up with him before becoming airborne. It is believed that this was probably the first of many visits that Black Dog paid to the veterinarian. However, it didn't stop him from the practice. He simply swerved to one side during future take-offs as

soon as the airship caught up with him.

At the end of World War II Black Dog traveled to Lakehurst, N. J., when the men of ZP-12 were transferred. They took up residence in Hangar Five which was to be Black Dog's home for six years. ZP-12 decommissioned and became ZP-2. It was from this time that the exploits



of Black Dog can most accurately be told.

He only left the hangar to ride the van to the chow hall and when he was bodily taken away from some reason. He rarely rode the van back to the hangar after chow, but chose to visit his lady friends or fight some high-ranking Navyman's dog on his walk back to the squadron.

However, he was seldom absent for any great length of time. He usually slept on a coil of line or on a pile of old canvas blower sleeve, during the day. At night he liked to patrol with the security and pressure watches, and hunted rats. This required that he visit the vet regularly for rabies shots.

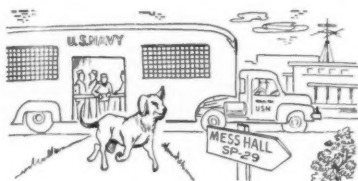
That's how the Black Dog hospital fund got started. It was maintained by the ZP-2 Leading Chief. The men contributed enough so that his future medical expenses might be paid. It ran to \$30 or \$40 at times.



He never failed to delight the men while hunting a rat or mouse. Sometimes he would get excited and start running on the slippery floor so fast his legs would be moving but his body standing still. It wasn't unusual for him to run full tilt into

a wall in his efforts. After he chased a rodent into a hole, he was known to sit there for hours, waiting for it to come out again.

Another peculiarity of his was to chase tin cans when thrown at him.



He loved to push one over the hangar deck with his nose, and bark at it continuously. It would become necessary to take it away from him to keep him quiet.

At no time was the word passed over the hangar public address system for the duty section to muster, without Black Dog's appearing with the men. They often called him by name to come to the duty desk and pick up his night rations which usually consisted of a ham sandwich. Many sailors tried to fool him by calling at unscheduled times just to see if he would appear. They were successful once or twice, but he soon knew when the call was in earnest.

He was a familiar sight at Personnel Inspection, standing with the Leading Chief or following the Captain through the ranks. None of these personality quirks was encouraged by the men. No one was ever able to teach him anything. He simply learned those things he considered important. He never cottoned to any particular sailor for any length of time, and generally showed complete indifference to those who went out of their way to be friendly to him.

Once, nobody knows when, Black Dog ran under a "K" ship propeller and had the tip of his tail very neatly clipped off. Most animals

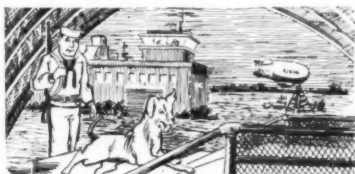


would never have gone near a ship after that, but not Black Dog. This merely meant that he could run under props any time now that he was cut down to size.

He once demonstrated an undog-

like intelligence by begging a sailor for walnuts, which the sailor had packed in his lunch pail. Everybody knows that dogs don't eat walnuts. However, the sailor finally relented and gave the dog a handful of nuts. Black Dog proceeded to toss the walnuts up in the air and let them crack open on the concrete floor, then he picked out the meats and ate them.

For several years at Lakehurst, Black Dog faithfully manned his duty station for ground handling. He was often seen running ahead of a ship in snow up to his stomach. He was out there when it was so cold he stood on three legs just so he could keep one in the air and not put it on the icy mat. The same principle applied in the summer when the mat was too hot for his thick paws. Someone once made the mistake of locking him in one of the hangar shops so he wouldn't go out in the cold. He scratched and tore his way through two thicknesses



of sheetrock and sped out to the landing ship. Nobody tried that again.

In August of 1951, ZP-2 got orders to go to NAS Glynnco, Georgia, for duty. As the last ZP-2 airship was crossing the hangar sill to fly south, the radioman from Aircrew 203 climbed out of the ship and grabbed Black Dog and put him aboard. They had their picture taken then, which still appears in ZP-2's squadron history.

At the beginning of that flight, Black Dog went forward to the radio compartment and lay down under the navigator's table. Ten hours later when they landed at Glynnco, Black Dog was still under the table, behaving himself. Before the ship was even on the mooring mast, he was handed down the ladder and turned loose. He wasn't seen again until chow time when he showed up at the mess hall just as though he had always lived there.

By this time Black Dog was getting along in years by dog standards. His actual age was figured at 12 years, which multiplied by seven

gave him a comparable age to man of 84 years old. He didn't appear much different except that he began to lose his teeth. Consequently he often ended up second best in fights he started but couldn't finish. Black

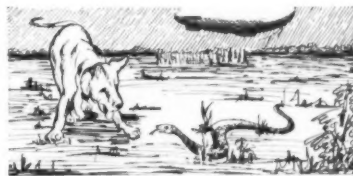


Dog often went to the vets to be patched up after being ripped by well-toothed, more fortunate dogs.

A sailor took him home one time just to let him rest on a warm rug for a change, and let him run on soft grass. He didn't last for more than one night. The sailor finally caught him trying to cross the St. Simons Island bridge to get back to the squadron. No one attempted to put him out to pasture again.

One night the ground handling party was lined up on the field in the typical V formation, waiting for an approaching ship to land. Out ahead of the party where the crew would eventually have to run, Black Dog set up a loud yelping and barking. The chief in charge ran over to him to put a stop to his noise. When he directed his light on Black Dog, there on the mat in front of him, lay a six-foot water moccasin. There isn't a sailor in that party who wasn't grateful to that black mongrel for being there that night.

In general, all of these incidents are but a build-up to the most spectacular event in Black Dog's life. Late at night during the hurricane season, the squadron received orders to deploy away from Glynnco out of the path of an approaching hurricane. One by one the airships took off and headed away to their de-



ployment area. In one of the ships, a pilot just happened to be using the spot light in the cockpit to shine on the ground below.

It was about three fourths of an hour after take-off. The pilot noticed

that only one short line dangled back toward the airship car as the forward momentum of the ship carried it back. He aimed the spotlight on the nose of the ship and followed the other line straight down. There was Black Dog, hanging head down from the end of the line, with it wrapped completely around one hind leg.

A message was sent back to the base reporting the fact, along with a request to return to base in order to save him. The commander of the squadron, after weighing the situation carefully and considering the anxious men in the squadron, allowed the airship to return to drop Black Dog. They made a low pass over the field while a truck with men standing in the rear chased the ship and grabbed the dog in their arms after overtaking the line that

dangled from the moving air ship.

When Black Dog was released he had been airborne for an hour and seventeen minutes. He was still alive. The pads on his free paws had been worn to the bone where



he had scraped them on the gravel mat during the take-off. He seemed more dead than alive.

He was rushed to the animal clinic and stayed there for two months until all his wounds finally healed before he was returned to the squadron.

Navy Roster of Famous Mascots Included Pete and Agnes

Black Dog is not, of course, the only mascot to have been immortalized in the pages of *ALL HANDS*.

Consider Pete, for example, the monkey mascot and pride of Landing Craft Unit Division 11, back in 1957. The delight and personal property of LCU 1481, Pete took his first step as a member of the ship's company by a complete physical which was, his sponsors claim, undoubtedly one of the longest in naval history. The exam was delayed by difficulties when the corpsmen tried to pin Pete down for his shots. His teeth were also in excellent condition, as a Navy dentist discovered when he failed to pull his fingers out of Pete's mouth in time.

Pete established something of a reputation as a gourmet. He ran through the menu from shoe polish, soap, shaving cream and paint. He discovered that paint didn't agree with little monkeys. Neither, oddly enough, did he care for bananas.

A well-traveled monkey, Pete

had by the time we heard of him, visited Okinawa, Formosa, Korea, Japan, Wake Island, Hawaii and Hong Kong. While on operations, he would set himself up on the conn.

When the ship moored, he would usually be found at the gangway where, the crew insists, he was better than any sentry or watchdog. In Yokosuka, when Pete found a yardman working in the ship's magazine, he let out screams that were heard from one end of the ship to the other. He recognized anyone in the uniform of the day, but trusted no one in any other kind of outfit.

Then, for a regrettably short time, there was Agnes, the pride and love of UDT One. Agnes was a seal. Until she caught the flu, Agnes had been the mascot of the Coronado-based frogmen of the Pacific Fleet Amphibious Force. We couldn't think of a more appropriate mascot for a bunch of frogmen and neither could they. She has retired to the San Francisco zoo.



However, his ground handling days were over. From the time he returned from the hospital, the aging dog was restricted to the hangar during airship operations.

This action was taken with the best of intentions and was in the nature—more or less—of an honorable retirement, but it just about broke Black Dog's heart.

He went through the motions of his routine hangar life, but his friends could see that he no longer carried on with his old verve and love of life. For a dog who had lived his best, as he saw it, old age was just one more enemy that he could not whip.

When he died in 1957, the men of ZP-2 felt the loss so much that they donated enough money to buy him the stone mentioned earlier. He was laid to rest beside the entrance into the ZP-2 hangar. In his life, 18 actual years, or 126 dog years, he had been a constant companion and inspiration to the men of lighter-than-air.

Many still remember the large barrel chested, homely, ragged-eared mutt that seldom paid you the compliment of licking your hand, but who held the admiration of all. You couldn't pet him without getting grease on your hands, and yet he was never expelled from the presence of the men he followed for being dirty. He was a faithful companion to all, and though he lived a long life, it was by no means an easy life.

When ZP-2 decommissioned in September of 1959, the last captain of ZP-2 decided that his stone should be shipped to Lakehurst where the only remaining airships of the Navy are based. On the concrete pedestal under the stone is a large plaque with the following inscription:

Though Black Dog's remains be interred at Glynco, Georgia, his headstone is placed on his old quarterdeck to perpetuate his memory in lighter-than-air.

On 19 Nov 1959, Commodore Klein of Airship Wing One, based at NAS Lakehurst, rededicated Black Dog's headstone in an unveiling ceremony, before the personnel of the two remaining LTA squadrons.

Such were the life and times of Black Dog—a good shipmate.

—ENS C.E. Aldrich, USN

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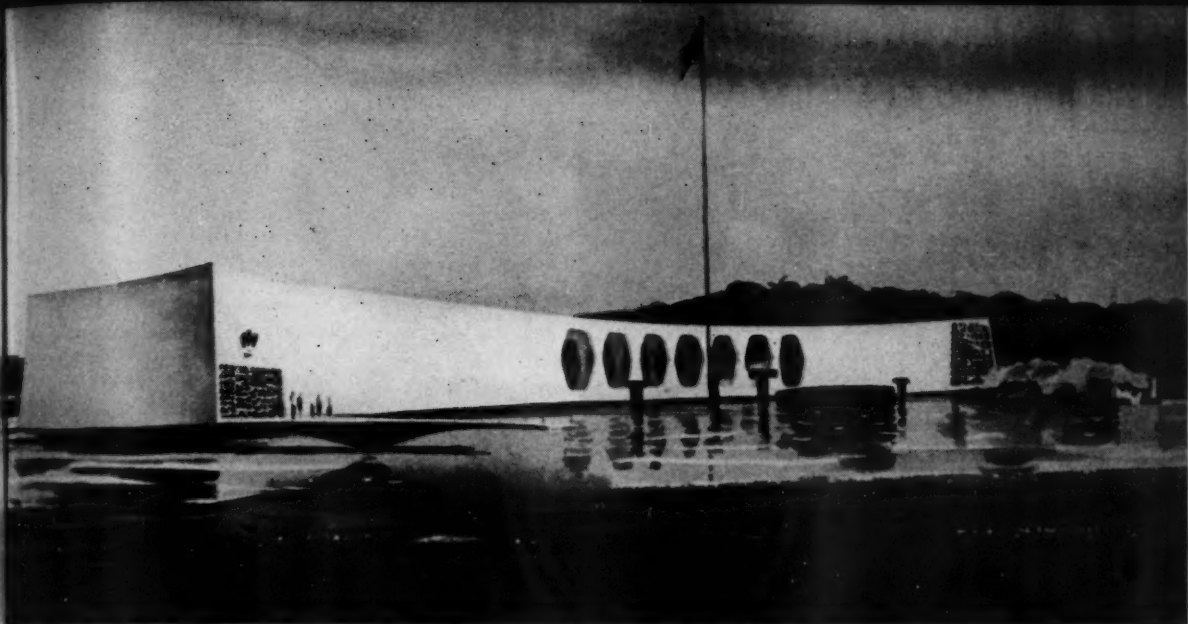
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HANDS



HERE'S HOW the new USS Arizona memorial will look when it is finished as it spans the sunken battleship's hull.

New Arizona Memorial Is Underway

THE CREW OF USS Arizona (BB 39) may have a new memorial at Pearl Harbor before the end of 1960.

The final construction plans and specifications for the memorial have been completed and the construction contract is to be awarded in the near future with tentative completion of the memorial scheduled before 7 Dec 1960.

At that time, the memorial will rise above the hulk of Arizona as a shrine for the 1102 men who went down with her on 7 Dec 1941.

The structure will be of light-

weight concrete, supported on prestressed concrete girders. It will stretch 186 feet from the outboard side of Arizona to the inboard side of Ford Island with cantilevered ends projecting outward.

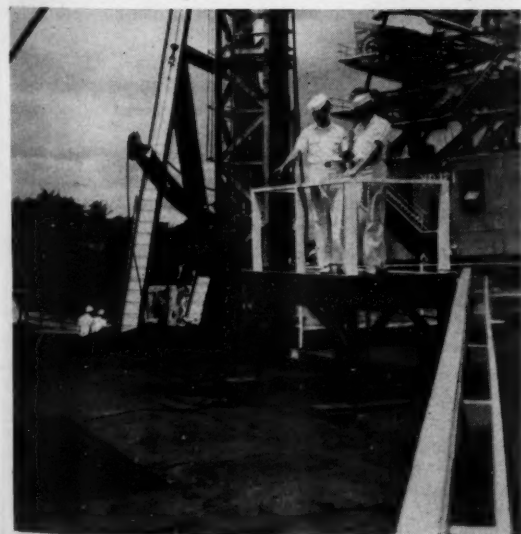
An 18-foot round opening, illuminated with under water lighting will be set in the deck adjacent to the shrine area for viewing sunken portions of the ship.

The memorial will house an assembly area for flag-raising ceremonies large enough to accommodate 200 persons, a museum containing

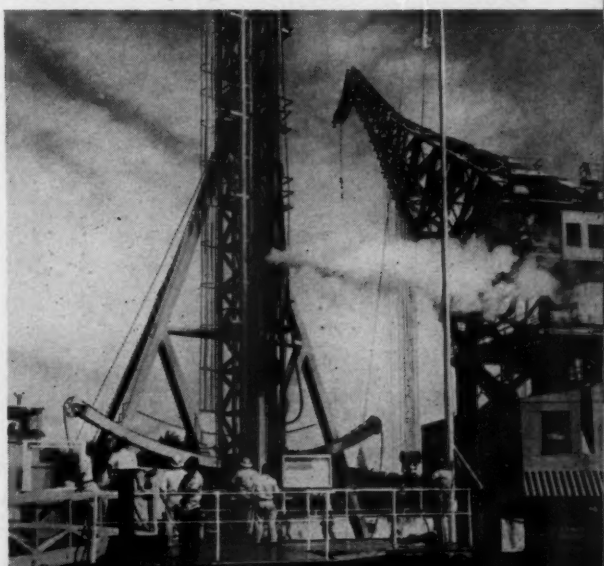
salvaged mementos of Arizona, and a plaque on the end wall of the shrine inscribed with the names of the 1102 men entombed in the vessel. They were among the first American heroes of WW II.

Visitors will enter the memorial from two boat landings projecting from the harbor end of the structure. Swinging doors attached to fixed gridded panels will permit access to the memorial itself. The present concrete mooring blocks on the Ford Island side of ship will be used for landscaping purposes.

ON THE WAY—Navymen view USS Arizona from present platform. Rt: First pilings are driven for new memorial.



JULY 1960



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WHAT'S HAPPENING — Native children of Balakbak Province in Philippines are examined by Navy doctor.



GONE NATIVE—LT C. R. Harper, MC, USN, advises a patient. Below: Overflow waits turn at a jungle office.



Country Doctor

THERE ARE NOT MANY country-doctor-type billets in the Navy, but LT C. R. Harper, MC, USN, at the U. S. Naval Air Station, Cubi Point, P. I., has one.

Every six weeks he and his assistants, M. B. Dumlaog, HM2, and L. L. Fears, HN, leave their "city" office and take a trip into jungle-covered mountains to visit and treat natives of the mountain province of Balakbak. The doctor's visit supplements the monthly one made by a Philippine government doctor.

Most of the people of Balakbak are Christians, and farmers. In the valley where they live, they grow rice, bananas, beans, pineapples, oranges, carrots, cabbage and lettuce. They produce all the food they need for themselves and a little extra to sell for clothes and other necessities.

Sanitation facilities are inadequate, and the natives are very susceptible to sickness. Mainly, they suffer from tuberculosis, intestinal parasites, and goiter. Doctor Harper's job is not only to treat the people, but also to try to teach them ways to prevent disease, mostly by cleanliness and proper diet.

During a typical visit to the province, Dr. Harper inoculates about 200 children against tetanus, diphtheria, whooping cough and typhoid. He also inoculates adults against typhoid.

After all the children have received their shots, he goes to the dispensary and holds sick call. There he examines and treats the people for various diseases and injuries with medicine donated by the U. S. Navy. He gives his patients whatever medicines he has brought with him. If a particular medicine isn't available, he writes a prescription which can be filled at a small cost by the Philippine circuit doctor.

On the last night of the visit, which usually extends over a week-end, the people of the Province gather at the house where Dr. Harper stays, and put on a square-dance party. (The natives were taught to square dance by missionaries.)

In the morning, as the medical team is leaving, almost all the villagers turn out to say goodbye. Some 200 miles of rough roads later, the Navy group returns to base.

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ALL HANDS

All about Advancement

It's TIME for those advancement in rating examinations once again and your chances for promotion are about as good as—if not better—than ever.

The opportunity for advancement and the added pay, responsibility and prestige that go along with it, are practically yours for the asking. That is, if you have fulfilled all the requirements and pass the examination with a high enough score.

You should know by now that the Navy does not simply hand out that crow or added stripe. You must qualify and be eligible for them.

Since this is the case, let's take a look at your individual responsibilities regarding advancement.

Basic Eligibility

To begin, there are certain requirements that you and every other Navyman—regardless of rate or rating—must fulfill before you can even participate in the Navy-wide examinations for advancement in rating. To be eligible, you must:

- Be recommended by your commanding officer.
 - Complete all of the required practical factors.
 - Complete the required Navy Training Courses.
 - Complete performance tests, if required.
 - Successfully complete service school, if required for the particular pay grade or rating.
 - Fulfill service requirements, both time in service and time in pay grade.
 - Be in the proper path of advancement.
- Let's take a more detailed look at each of these seven elements which comprise your eligibility to compete for advancement.

Recommendation by Your Commanding Officer

This is the first requirement for advancement in rating. Recommendations are not given as a matter of routine to every Tom, Dick and Harry. They are well considered and given only to those who have the ability to perform the work and carry the responsibilities of the higher rating. In case of candidates for petty officer grades, particular consideration is given to the qualities of leadership and personal integrity.

The commanding officer's recom-

mendation for advancement must be recorded on page 13 of your service record. This recommendation may be withdrawn at any time before actual advancement. If it is withdrawn, a service record entry must be made.

Practical Factors

These are described as the skills and abilities required for advancement in rating which can best be demonstrated by performance. Practical factors are listed for each rating in the *Manual of Qualifications for Advancement in Rating* (NavPers 18068, revised).

Methods of completing practical factors are prescribed in Article C-7201, *BuPers Manual*; while Article B-2326 outlines the methods for maintaining records of completion of practical factors.

You should make it a point to check the practical factors, both military and professional, that are required for your rating and be sure that you can accomplish them.

Navy Training Courses

These are formal courses based on the qualifications for each Navy rating. The current edition of *Training Publications for Advancement in Rating* (NavPers 10052-H) lists the publications for all ratings.

You must complete the Navy training courses for your individual rate or rating that are marked with

an asterisk (*) in the current edition of *Training Publications for Advancement in Rating* (NavPers 10052-H).

It will be to your advantage if you really concentrate on studying these training courses as well as the other courses and publications listed for your rate or rating. They are used as source material for preparing the examinations.

There are two methods by which you can complete a Navy Training Course. The first is by demonstrating that you understand the material in the course book by passing a locally prepared and administered test. Secondly, by completing with a passing grade the enlisted correspondence course based on the Navy Training Course.

Some enlisted correspondence courses are applicable to a single pay grade, while others apply to two grades. Completion of a single-grade correspondence course based on either a single- or two-grade Navy training course satisfies the requirements for one grade only. Satisfactory completion of a two-grade course satisfies the Navy training course requirements for both grades.

Navy training courses covering military requirements for petty officers in all grades have recently been revised and reissued in two

MOVING UP—Passing exams leads you to step up advancement ladder.



ALL ABOUT ADVANCEMENT

volumes. You must complete the current editions of these training courses in order to be eligible for advancement to all petty officer grades. These publications are *Military Requirements for PO 3 & 2* (NavPers 10056) and *Military Requirements for PO 1 & CPO* (NavPers 10057). Enlisted Correspondence Courses—ECC 91206 for PO 3 & 2 and ECC 91207 for PO1 & CPO—are available.

If you have successfully completed a course of instruction at a Class A service school, or the equivalent, you will be credited with satisfying the requirements for completion of a Navy training course for petty officer third class (E-4).

Certain Fleet and special schools have been authorized by the Chief of Naval Personnel to assign striker designations to graduates of their courses. Therefore, personnel who have a school-assigned striker identification are considered to have met the training course requirements of the applicable rating for pay grade E-4.

Successful completion of a Class

B service school may be considered as satisfying the requirements for completion of the training course for PO1.

The satisfactory completion of a Class A or B school DOES NOT, in itself, satisfy the practical factor or performance test requirements for advancement in rating. However, you may complete these requirements and have them recorded in your record while attending a service school.

Performance Tests

Tests are required for certain ratings as outlined in the *Manual of Qualifications for Advancement in Rating* (NavPers 18068, Revised). If a performance test is required for your rating you must successfully complete it before you will be permitted to take the Navy-wide examination for advancement in rating.

Performance tests are administered by local examining boards. These boards are usually composed of two or more officers in the larger commands and only one officer in the smaller commands where candidates are few in number.

Changes in Advancement-in-Rating Procedures

To keep pace with the changing times, the Navy's advancement in rating procedures have also been revised and brought up-to-date.

Although no major changes have been made in the Navy's basic advancement policies, certain long-standing procedures have been changed to take advantage of modern test scoring and processing equipment installed at the Naval Examining Center. These changes include:

- Commanding officers are authorized to order examinations direct from the Naval Examining Center rather than via convening authorities. (This procedure was initiated in the August 1959 examining period.)
- Convening authorities are not required to stock spare examinations. (This was initiated for the August 1959 exams.)
- Source information on recommendations and multiple computations must be submitted one month before the examination date. (Initiated for August 1959 exams.)
- Punched card answer sheets replaced the old "mark sense" answer sheet. These cards were used

for the first time during the August 1959 exams. (See page 20 of the July 1959 issue of ALL HANDS for an illustrated report on the new punch card answer sheets.)

- Electronic Accounting Machine cards were introduced as source documents for advancement in rating recommendations and multiple computations. This new form was distributed to all ships and stations during April 1960. This card (NavPers 624, Revised 1/60) replaces the old Report of Examination for Advancement or Change in Rating Form (NavPers 624).

- Requests for delayed examinations must be submitted within one month of date of examination. (This system was also initiated for the August 1959 exams.)

- The date for completion of eligibility requirements, except time in service and time in pay grade, is specified as one month before the date of examinations. This coincides with the date of submission of recommendation for advancement.

All of these changes were announced in BuPers Inst P1430.7D.

Performance tests are normally administered at least once each quarter, but commanding officers may schedule performance tests more often if local conditions demand. Detailed instructions for the administration of performance tests are contained on the cover page of each individual performance test.

Performance tests are scored on a pass-fail basis at the command level and the results entered in the enlisted service record on the administrative remarks page (page 13). The score you receive on your performance test DOES NOT count as part of your final multiple. (see page 35.)

Required Service Schools

Only personnel qualifying for six rates are now required to attend service schools to be eligible for advancement. They include PR3, DT3, MNCA, MUCA, AGCA and PT3. Personnel qualifying for these rates must attend the appropriate Class A, B or Fleet School in order to meet the eligibility requirements for advancement.

Path of Advancement

You can only be promoted to the next higher pay grade in the rate that is in the proper path of advancement in relation to the rate held as shown in the Table on the Enlisted Rating Structure in the *Manual of Qualifications for Advancement in Rating* (NavPers 18068). (See chart on page 32.)

The only exceptions to the prescribed normal path of advancement apply to personnel attending schools where the course of instruction is intended to qualify them for change in rating and for certain ratings in the conversion program which are specifically authorized by BuPers.

All active duty Reserve personnel, except TARs, in pay grade E-3 and above, may be advanced only in and within Emergency Service Ratings in those ratings where ESRs are established.

In those ratings in which selective emergency service rates or service ratings have been activated, regular Navy and TAR personnel will be advanced only to the activated selective emergency service rate or service rating. Advancement of these regular Navy and TAR personnel to the pay grade higher than the one at which the selective emergency service rating is activated will be in the related general service rating or general rating. (See box on page 29.)

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JULY

Enlisted women may be advanced only to and in the following rates and ratings and, in the case of personnel in the Naval Reserve, to the related emergency service ratings:

Rates	Ratings
SA, SN.....	ET, IM, OM, PN, RM, CT, YN, DM, MA, SK, DK, CS, SH, JO, LI
AA, AN.....	AT, AC, AG, TD, AK, PH
HA, HN.....	HM
DA, DN.....	DT

Foreign nationals serving on active duty in the U. S. Navy may be advanced only to the following rates and ratings, and, in the case of personnel in the Naval Reserve, to the related emergency service ratings:

Rates	Ratings
SA, SN.....	BM, CS, DK, MU, SH, SK
AA, AN.....	AB, AK
FA, FN.....	BR, BT, EM, EN, IC, ML, MM, MR, PM, SF
CP, CN.....	BU, CE, CM, EO, SV, SW
	UT
HA, HN.....	HM
DA, DN.....	DT
TA, TN.....	SD

Methods of changing from one path of advancement to another in equal pay grade are set forth in BuPers Inst. 1440.5C (Subj: Changes in Rate and Rating) and in Article C-7213, *BuPers Manual*.

Entries should be made in your service record certifying that you are eligible to participate in the advancement in rating exams. Such entries should include your CO's recommendation, record of completion of required training courses, practical factors and performance tests.

In case of advancements requiring completion of a service school, evidence must be verified by your service record, or by an official certificate.

Check Your Service Record

It is your responsibility to see that you meet all of the required elements for advancement and you should personally check your service record to see if the appropriate entries have been made. You can do this during the annual verification of records or by making a special visit to the personnel office.

If entries have not been made in your record, you should contact your division and I & E officers and ask them to initiate action to have your record brought up to date.

To be eligible to compete in an advancement in rating examination, you must fulfill all of the requirements—except time in service and time in pay grade—at least one



EFFORT REWARDED—Ship's CO congratulates men who have been advanced. Check the requirements for your rate to be sure you're ready for that exam.

month before the examination.

Time in service and time in pay grade must be completed before the terminal eligibility date. (The terminal eligibility date is defined as the 16th day of the third month following the month in which examinations are held, that is, 16 November for the August examinations and 16 May for the February examinations.

Time in Grade

The minimum service requirements for advancement in rate or rating, as specified in Article C-7204, *BuPers Manual* are:

Pay Grade	Service Requirements
E-1 to E-2...	No specified time for advancement; may be effected upon completion of recruit training; otherwise four months' naval service.
E-2 to E-3...	Six months in pay grade E-2.
E-3 to E-4...	Six months in pay grade E-3.
E-4 to E-5...	12 months in pay grade E-4.
E-5 to E-6...	24 months in pay grade E-5.
E-6 to E-7 (acting)...	36 months in pay grade E-6.
E-7 to E-8...	48 months in pay grade E-7, and minimum total service of 11 years, eight years of which must be enlisted service. Also must be a CPO, permanent appointment.
E-8 to E-9...	24 months in pay grade E-8, and minimum total service of 13 years, ten years of which must be enlisted service.

Determination of service for eligibility is made according to the fol-

lowing definitions and computation procedures:

- *Service for eligibility for advancement* is defined as active naval service, or inactive naval service as a member of a drilling organization. Naval service includes service as USN-I, USNEV, USNR, USN, and for the period 7 Dec 1941 to 1 Sep 1946, USCG and USCG-R.

Active naval service for eligibility for advancement is defined as full-time service with the Regular Naval Establishment or full-time service on active duty basis with the Training and Administration of Naval Reserves (TARs).

Inactive naval service for computation of advancement eligibility is defined as service in the Naval Reserve as a member of a drilling organization.

Continuous service for purposes of eligibility for advancement is defined as service in current enlistment plus those preceding enlistments in any category of naval service listed above provided that no period in excess of three months has occurred between discharge and subsequent reenlistment and provided that no period in excess of three months of inactive naval service was performed in a "non-drill status."

Computing Service

In computing service in pay grade for eligibility for advancement, count



GOOD START—Navymen eager for promotion check-out training books.

all active service performed in present or higher enlisted pay grade under continuous service conditions except in case of persons that were reduced in rate because of disciplinary action. Count one-half of in-

active service as a member of a drilling organization performed in present or higher enlisted pay grade under continuous service conditions. Active service under continuous service conditions in present or higher enlisted pay grade prior to administrative reduction in rating (i.e., to enlist USN from USNR) may be counted for eligibility.

In computing total active service for eligibility for advancement, count all active service whether or not under continuous service conditions. Count one-half of inactive service as a member of a drilling organization whether or not under continuous active service condition.

Time not served between discharge and subsequent reenlistment cannot be counted as service in any computations of eligibility for advancement. Time not served by reason of confinement for more than one day as the result of sentence of any court martial cannot be counted.

Service is computed in years and months. Periods of less than one month, when totaled, may be con-

sidered on the basis of 30 days being equivalent to one month. A remainder of 16 days or more will be counted as an additional month.

Personnel who have been reduced in rate for disciplinary action or for incompetency may not count service in present or higher pay grades, performed before reduction as fulfilling service in pay grade requirements for eligibility for advancement. Time served in present or higher pay grade before reduced to a lower pay grade does count in computing total active naval service required for eligibility and in computing total service credit in the final multiple.

Eligibility for advancement after reduction in rate or rating as the result of disciplinary action must be re-established from date of reduction. It should be noted that time served in present or higher pay grade prior to such reduction may not be counted toward eligibility for advancement. (See Article C-7212, *BuPers Manual*.)

Personnel who have voluntarily accepted a reduction in rate for the

Changes in Quals for Advancement May Apply to You

There have been a number of recent changes in the eligibility requirements for various rates and ratings. Here's a summary of them:

- **To Pay Grades E-8 and E-9**—The revised issue of the *Manual of Training Publications for Advancement in Rating* (NavPers 15002-H) specifies the new training courses for the military requirements for both pay grades E-8 and E-9.

Because of insufficient time before the August 1960 exams for personnel competing for these pay grades to complete these courses, completion is waived for the mandatory training courses for the August 1960 examining period. These courses will be required for subsequent examinations. However, this material will be used in preparing the August 1960 exams and you should study the training manuals, training courses and other training publications listed in NavPers 10052-H.

BuPers Inst. 1430.11B—which has been incorporated in BuPers Inst. P1430.7D—established obligated service requirements for Master and Senior Chief Petty Officers. Personnel selected for advancement to E-8 must, before accepting advancement, agree to

remain on active duty for two years from date of advancement to Senior Chief Petty Officer, provided this obligated service is completed before 30 years of service.

The requirements for three years' obligated service for personnel selected for E-9 was included in the rating authorization letters issued by the Chief of Naval Personnel in October 1959.

Personnel selected for E-8 and E-9 are now required to pass a physical examination before accepting their promotion to Senior or Master Chief Petty Officer.

- **Qualifications for Yeoman**—BuPers Notice 1440 of 31 Mar 1960 announced that personnel in the Yeoman rating would no longer be required to take and transcribe dictation, nor would they be required to take the stenography performance tests. Examinations for August 1960 will contain questions on mailman qualifications within the Yeoman ratings.

- **Military Requirements for Pay Grades E-4 and E-5**—BuPers Inst. 1430.7C—which was recently cancelled by BuPers Inst. P140.7D—specified that completion of the *General Training Course for Petty Officers* (NavPers 10055) would

fulfill the requirements for the mandatory training course *Military Requirements for Petty Officer 3 and 2* (NavPers 10056). This provision is extended to include the August 1960 examining period only.

- **Alternate Path of Advancement for Enginemen Trained in Nuclear Propulsion**—Recent action has changed nuclear submarine allowances to include the Machinist's Mate rating. Enginemen trained in nuclear propulsion are also filling some Machinist's Mate billets in the surface nuclear propulsion program.

To place these men in the proper billets, authority is granted for Enginemen or EN strikers in pay grades E-5, E-4 or E-3, holding a BuPers assigned NEC of nuclear power plant operator to compete for advancement to EN or MM.

Those authorized to compete in the alternate path of advancement must have completed the required training courses, practical factors and performance tests for the alternate rating.

In each case of personnel competing under this authority, the NavPers 624 submitted must indicate in the lower right corner, "ALT PATH OF ADV AUTH BY BUPERSNOTE 1418."

purpose of enlisting in the regular Navy are required to compete in Navy-wide examinations for re-advancement, but the time previously served in present or higher pay grades under continuous active service conditions may be counted toward both total service and service in pay grade for eligibility.

Personnel reenlisting in regular Navy under broken service conditions in a pay grade lower than that in which discharged must fulfill time in rate requirements for eligibility from the date of your reenlistment.

Preparing for Advancement

Examinations for advancement in rating are prepared by the U. S. Naval Examining Center, Great Lakes, Ill. They are based on the qualifications outlined for each rating in the *Manual of Qualifications for Advancement in Rating* (NavPers 18068, revised).

The *Quals Manual* is the book to check insofar as qualifications for advancement are concerned. It supplements certain parts of the *BuPers Manual* and is designed to:

- Provide standards for advancement in rating of all Navy enlisted personnel and insure uniformity of standards among petty officers.
- Aid in the administration of an orderly and equitable promotion system.
- Indicate the course of development within a career field.

In addition, the *Manual* serves as a guide for:

- Enlisted personnel preparing for advancement in rate or rating.
- Preparation of service-wide advancement in rating examinations and locally prepared advancement in rate examinations.
- Preparation of training courses, publications, on-the-job training programs, and school curricula.

The current edition of the *Manual of Training Publications for Advancement in Rating* (NavPers 10052-H) lists the training courses and study guides applicable to each rating in the Navy. These training courses and study guides serve as a working list of material to study in preparing for advancement in rating, as well as the source of questions used in the Navy-wide examinations.

New study guides are made available to all ships and stations when significant changes are made in the *Qualifications Manual*. In ratings which have selective emergency

These Terms Bothering You? Here's What They Mean

The following definitions of terms pertain to advancement in rate. It may be worth your while to check on their meanings.

• **Navy Enlisted Rating Structure**—A classification of Navy enlisted occupations or ratings. Ratings are designated under the 1947 rating structure as general service, emergency service, or exclusive emergency service; and under the 1957 rating structure as general service, or emergency. In addition there are general apprenticeships. All of the foregoing have been classified into occupational groups.

• **Occupational Group**—A broad classification of occupationally related ratings.

• **Rating**—A name given to an occupation which requires basically related aptitudes, training, experience, knowledges, and skills.

• **Rate**—The term is used in two senses: A rate identifies personnel occupationally by pay grade. Within a rating, a rate reflects levels of aptitude, training, experience, knowledges, skills, and responsibility. The rating of Boatswain's Mate (BM) is reducible to the rates of master chief boatswain's mate, senior chief boatswain's mate, chief boatswain's mate, boatswain's mate first class, boatswain's mate second class, and boatswain's mate third class.

In its second meaning the term "rate" refers to an individual in one of the general apprenticeships such as seaman, airman, fireman, construction man, hospitalman, dentalman, or stewardman.

• **General Service Rating**—A job family which encompasses a group of jobs related on the basis of common aptitudes, skills, and knowledges. This is the type of rating held by Regular Navy personnel in peacetime.

• **General Rating**—Reflects qualification in all aspects of an occupational field. *It is similar to and will replace the general service rating.* It is applicable to both the regular Navy and the Naval Reserve.

• **Emergency Service Rating**—A job family which represents a segment of a parent general service rating. This is the type of rating held by most members of the Naval Reserve and to which regular Navy personnel will be shifted in time of mobilization as directed by the Chief of Naval Personnel.

• **Service Rating**—Reflects qualifications in some aspect of an occupational field (general rating), and provides specialization where deemed desirable. *It is similar to and will replace the emergency service rating.* It is applicable to both the regular Navy and the Naval Reserve.

• **Exclusive Emergency Service Rating**—A classification of specialized occupations activated in time of national emergency and under conditions of full mobilization. It is designed to fit recruits having specialized skills and knowledges into the wartime Navy with an absolute minimum of technical training. These ratings are not identified in the peacetime Navy, however, some of the functions of certain of these ratings are performed by enlisted personnel as collateral duties. Example: Fire-fighter.

• **Emergency Rating**—Reflects qualification in a civilian skill which is not identified in the peacetime Navy but required to be identified in wartime. *It is similar to and will replace the exclusive emergency service rating.*

• **Military Requirements**—Those general qualifications applicable to all enlisted personnel irrespective of rating. Candidates for advancement in rating are expected to demonstrate, as well as pass successfully a service-wide examination on, the qualifications as a minimum for advancement to specific pay grades.

• **Professional Qualifications**—Minimum professional or technical qualifications required of enlisted personnel to perform properly the duties of a particular rating or rate.

• **Practical Factors**—Qualifications which include minimum skills and abilities required for advancement and which can best be demonstrated by performance. Practical factors also form the basis of questions contained in the service-wide examinations.

• **Examination Subjects**—Qualifications which include the minimum

(Continued on next page)

Definitions of Terms on Subject of Advancement

(Continued from preceding page)

knowledge required for work performance and can most accurately be determined by means of a written examination.

• **Knowledge Factors**—Qualifications which include knowledges which are necessary for or auxiliary to the proper performance of practical factors. Every effort has been made to eliminate duplication of the practical factors and knowledge factors.

• **Pay Grade**—Refers to the levels established by legislation for pay and allowances purposes. Ratings and rates are reducible to equivalent pay grades; Master chief petty officer—pay grade E-9; Senior chief petty officer—pay grade E-8; chief petty officer—pay grade E-7; petty officer first class—pay grade E-6; petty officer second class—pay grade E-5; petty officer third class—pay grade E-4; seaman—E-3; seaman apprentice—E-3; seaman recruit—E-1.

• **Advancement in Rating**—An increase in pay grade within a rating. Example: Quartermaster third class to quartermaster second class. (Advancement in rate refers to an increase in pay grade within a rate. Example: Seaman recruit to seaman apprentice.)

• **Change in Rating**—A change or conversion from one rating to another. Example: Signalman third class to electronics technician third class.

• **Change in Status**—From Chief petty officer acting appointment to chief petty officer permanent appointment. Example: Chief yeoman, acting appointment (YNCA) to chief yeoman, permanent appointment (YNC).

service ratings or service ratings established, separate exams are administered for each SESR or service rating.

Schedule of Exams

Examination for advancement in rating are held in February and August. Change in rating exams are also authorized for these same examining periods. The days on which examinations normally are held are:

First Tuesday in August	E-8/E-9
First Thursday in August	E-6
Second Tuesday in August	E-5
Second Thursday in August	E-4
First Tuesday in February	E-7
First Thursday in February	E-6
Second Tuesday in February	E-5
Second Thursday in February	E-4

Any changes in this schedule will be announced if necessary in a BuPers Notice of the 1418 series which is issued before each examining period.

Only under special circumstances may changes in the above schedule be made. An operational commander, however, has the authority to delay up to 10 days the administration of Navy-wide exams for seagoing or aviation units under his operational control that are operating or based outside the continental U. S., provided that these units will not have had contact with personnel who have taken the examinations in the interim.

A convening authority may authorize a delay of up to four days

for units under his administrative cognizance provided that personnel of such units have had no means of communication with personnel who have taken the examination.

Commanding officers of ships at sea, proceeding independently, may hold examinations on any subsequent date during the voyage, again provided that members of the crew have had no means of communication with personnel who have taken the examinations.

In no case may the examinations be held before the scheduled dates unless specifically authorized by the Chief of Naval Personnel.

Check Your NavPers 624W

One of your most important responsibilities pertaining to advancement is to see that your NavPers 624W (*Report of Examination for Advancement or Change in Rating*) is correct and up to date.

This document is the worksheet that accompanies your examination booklet on which are transcribed the eligibility factors relating to your qualifications for advancement or change in rating. All entries made on your NavPers 624W are taken from your service record. (This is the reason why you should make it a point to assure that your service record is kept up to date.)

Inaccurate or incomplete information on your NavPers 624W could possibly prevent you—though fully

qualified—from being advanced in rating.

You will be given the opportunity to review your NavPers 624W when you take your examination. You should be sure to take the time to check it thoroughly to see that you have been given proper credit for time in service and pay grade and received the proper number of points for awards.

If you believe that any entry is in error, you should circle that entry with a pencil and make arrangements with the Examining Board to have it corrected. Immediately after the exam you personally should check with the personnel office to see that your NavPers 624W is corrected before it is returned to the examining center.

The importance of submitting a correct NavPers 624W cannot be stressed enough. As said earlier, an incorrect or incomplete form could prevent you from being advanced. Check your NavPers 624W thoroughly and then check it again.

In reviewing your NavPers 624W, here's a check list of what to look for:

- The name of your command and its proper mailing address should appear on the top left corner of the form.
- The examination serial number is the same as that which appears on the envelope containing your examination booklet.
- Your name (last name and initials) should be the same as it appears in your service record.
- Make sure that your service number is correct.
- Check your present rating abbreviation and also make sure the abbreviation of the rating for which you are being examined is correct.
- See that your Enlisted Performance Evaluation Mark is properly entered. This mark should be carried to two decimals (Example: 42.50).
- Check your credit of total active service.
- Check your credit for length of service in pay grade.
- Check your multiple for creditable awards.
- Check the entry for performance test.

Period of 'Performance Factor'

The following periods are established as the length of time over which enlisted performance in pay grade will be considered in develop-

ing the "performance factor." Any evaluations made before the specified length of time or in a lower pay grade will not be considered:

Examination Pay Grade	Period of time to be considered in Computing Per- formance Factor
E-3 to E-4	6 months
E-4 to E-5	12 months
E-5 to E-6	24 months
E-6 to E-7	36 months
E-7 to E-8	48 months
E-8 to E-9	24 months

Here is an example of how a performance factor is computed:

A candidate was advanced from SN to CT3 on 16 Nov 1959 and is eligible to participate in the August 1960 Navy-wide examinations for advancement to CT2. Evaluations were made under the enlisted performance evaluation system on 16 Nov 1959 and 16 May 1960. These evaluations were entered on page 9 of the enlisted service record from which the following evaluations were extracted:

	11-16-59	5-16-60
Professional Performance	3.0	3.2
Military Behavior	2.8	3.0
Leadership and Supervisory		
Ability	3.0	2.8
Military Appearance	3.0	2.8
Adaptability	3.2	3.4

Since the performance factor is based upon evaluations made during the period of minimum eligibility for advancement (one year in this case) immediately before the terminal eligibility date for the examining period involved (16 Nov 1960), the two semi-annual evaluations made in the year immediately before 16 Nov 1960 would normally be used. However, in this case the marks assigned on 16 Nov 1959 were based on service in pay grade E-3 and thus should not be considered. The evaluations made on 16 May 1960 are the only marks that should be used. They average out to 3.04.

Performance Factor Credit

The evaluation average is then converted to a Performance Factor credit in accordance with the Performance Factor Conversion Table found in Part IV of BuPers Inst. P1430.7D.

If you checked this table, you would find that the evaluation average of 3.04 taken from the example cited above would have a performance factor credit of 21.20. This is the mark that would be entered on the NavPers 624W in the multiple computation section.

The highest performance factor

JULY 1960



STUDYING IS the sure way to prepare for the next promotion examination.

you can possibly obtain is 50.00 which is equivalent to an evaluation average of 4.0. (How do you rate?)

You must be certain that the performance factor entered on your NavPers 624W is correct because changes will not be permitted after the examination results are published.

Total Active Service

Check your NavPers 624W to insure that you have been credited with the proper amount of total active service. Credit for total active service is computed in accordance with the procedures outlined in Part II of BuPers Inst. P1430.7D. This entry on your NavPers 624W is

made in years and months and the actual credit you receive toward your multiple for total service should be carried to two decimal points. For example, if you are taking the August 1960 exams and you will have completed eight years' and three months' (08-03) total active service on the terminal eligibility date (16 Nov 1960), your numerical credit for multiple purposes will be 08:25.

The maximum credit for total active service is 20.00.

Service in Pay Grade

Credit for service in pay grade should also be computed in years and months and carried to two decimal points. (Continued on page 34.)

SCHOOLS are sometimes necessary before you advance to your next rating.



GENERAL APPRENTICESHIP



E-1



E-2



E-3

Navy Blue Stripes on White or White Stripes on Navy Blue



SR
SEAMAN RECRUIT

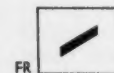


SA
SEAMAN APPRENTICE

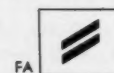


SN
SEAMAN

Red Stripes on White or Navy Blue



FR
FIREMAN RECRUIT

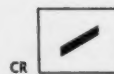


FA
FIREMAN APPRENTICE



FN
FIREMAN

Light Blue Stripes on White or Navy Blue



CR
CONSTRUCTION RECRUIT

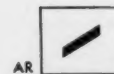


CP
CONSTRUCTION APPRENTICE

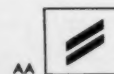


CN
CONSTRUCTIONMAN

Green Stripes on White or Navy Blue



AR
AIRMAN RECRUIT

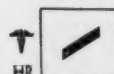


AA
AIRMAN APPRENTICE



AN
AIRMAN

Navy Blue Stripes on White or White Stripes on Navy Blue



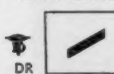
HR
HOSPITAL RECRUIT



HA
HOSPITAL APPRENTICE



HN
HOSPITALMAN



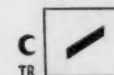
DR
DENTAL RECRUIT



DA
DENTAL APPRENTICE



DN
DENTALMAN



TR
STEWARDSMAN RECRUIT



TA
STEWARDSMAN APPRENTICE



TN
STEWARDSMAN

PATHS OF ADVANCEMENT FOR PETTY OFFICERS



E-4



E-5



E-6



E-7

GROUP I DECK



BM
BOATSWAIN'S MATE



QM
QUARTERMASTER



RD
RADARMAN



SM
SIGNALMAN

GROUP II ORDNANCE



GM
GUNNER'S MATE



PT
FIRE CONTROL TECHNICIAN



TM
TORPEDOMAN'S MATE



MN
MINERMAN



EW
NUCLEAR ENGINEER

GROUP III ELECTRONICS



ET
ELECTRONICS TECHNICIAN

GROUP IV PRECISION EQUIPMENT



IM
INSTRUMENTMAN



OM
OPTICMAN

GROUP V ADMINISTRATIVE AND CLERICAL



RM
RADIOMAN



YM
YEOMAN



PM
PERSONNEL MAN



PC
POSTAL CLERK



SI
STENOGRAPHIC CLERK



MA
MACHINE ACCOUNTANT



JO
JOURNALIST



CS
COMMISSARYMAN



SH
SHIPS SERVICE MAN

GROUP VI MISCELLANEOUS



LI
LITHOGRAPHER



DM
ILLUSTRATOR DRAFTSMAN



MU
MUSICIAN

GROUP VII ENGINEERING AND HULL



DC
DAMAGE CONTROLMAN



MM
MACHINIST'S MATE



EN
ENGINEER



MR
MACHINER



IC
INTERIOR COMMUNICATIONS ELECTRICIAN



BT
BOILERMAN



SF
SHIPFITTER



ML
MOLDER



NR
NUCLEAR REACTOR OPERATOR

GROUP VIII CONSTRUCTION



BU
BUILDER



EA
ENGINEERING AIDE



EO
EQUIPMENT OPERATOR



SW
STEELWORKER



CE
CONSTRUCTION ELECTRICIAN



CH
CONSTRUCTION HELPER

GROUP IX AVIATION



AD
AVIATION MACHINIST'S MATE



AO
AVIATION ORDNANCE MAN



AT
AVIATION ELECTRICIAN



AQ
AVIATION FITTER



PR
PARACHUTE BIGGER



AG
AEROGRAPHER'S MATE



AC
AIR CONTROLMAN



AX
AVIATION SIMULATION ELECTRICIAN



AM
AVIATION STRUCTURAL MECHANIC



ID
TRADESMAN



AB
AVIATION BOATSWAIN'S MATE



PI
PHOTOGRAPHIC TECHNICIAN

GROUP X MEDICAL



HM
HOSPITAL CORPSMAN

GROUP XI DENTAL



DT
DENTAL TECHNICIAN

GROUP XII STEWARD



SD
STEWARDSMAN

HM and DT personnel who desire to become the LDO program may apply in the area in which they themselves are qualified. They should, however, realize that to compete for selection with personnel who have had several years of practical experience within that technical field, HM and DT personnel are encouraged to participate in the LDO program. See BuPers Inst. 1120.10

SECNAV Approval. BuPers Notice. announce the requirements for the LDO program.

SENIOR ENLISTED PERSONNEL

LIMITED DUTY OFFICER PROGRAM

E-7	E-9	ENS	LTJG	LT	LCDR	CDR
		O-1	O-2	O-3	O-4	O-5

* LDO

The Limited Duty Officer Program is the Navy's principal enlisted-to-officer program. To be eligible for LDO you must: (1) Be a U.S. citizen; (2) a PO1 or above, a warrant officer or a temporary commissioned officer; (3) have served in pay grade E-6 for one year; (4) be on active duty in the Regular Navy; (5) have completed eight years of service; (6) have not reached your 34th birthday—for present or former temporary officers the age limit is 37; (7) be a high school graduate or possess the service equivalent; (8) meet the prescribed physical requirements, and (9) have a clear record for the past two years. For complete details, see BuPers Inst. 1120.18F.

LDO CATEGORY	OFFICER DESIGNATOR	ELIGIBLE ENLISTED RATINGS
DECK (600)	BM CM	
OPERATIONS (601)	RD SO RM SM	
ORDNANCE, SURFACE (610)	GM NW	
ORDNANCE, CONTROL (611)	FT GS	
ORDNANCE, UNDERWATER (612)	TM MN	
ADMINISTRATION (620)	YN PN MA JO DM LI PC	
BANDMASTER (626)	MU	
ENGINEERING (630)	MM BT MR EN IM BR OM	
HULL (635)	DC ML PM SF	
ELECTRICIAN (637)	EM IC	
ELECTRONICS (640)	ET	
CRYPTOLOGY (646)	CT	
AVIATION OPERATIONS (660)	AS AC PR PT	
PHOTOGRAPHY (663)	PH	
AEROLOGY (665)	AG	
AVIATION ORDNANCE (670)	AO AQ	
AVIATION ELECTRONICS (680)	AT AE TD	
AVIATION MAINTENANCE (685)	AD AM	
SUPPLY (370)	DK SK AK CS SH SD	
CIVIL ENGINEER (570)	CM EO UT CE EA BU SW	



COMMISSIONED OFFICER PROGRAMS AVAILABLE TO ENLISTED MEN

In addition to the normal path of advancement, the following programs leading to a commission are available to qualified enlisted personnel:

* USNA

Unmarried male enlisted personnel of the Regular Navy and Naval Reserve who are high school graduates between the ages 17 and 22 and meet all other requirements may attend the U.S. Naval Academy. For complete details see BuPers Notice 1531 and the current issue of the pamphlet entitled "Regulations Governing the Admission of Candidates Into the U.S. Naval Academy as Midshipmen."

* NROTC

Unmarried male personnel who are high school graduates between the ages 17 and 21 may apply for the Naval Reserve Officer Training Corps. See BuPers Inst. 1111.4C.

* NESEP

Enlisted men and women who are high school graduates, not more than 25 years of age, have a combined GCT-ARI score of 118 and are on active duty in the Regular Navy in pay grade E-2 or above, may qualify for four years of college under one of the Navy's two Enlisted Scientific Education Programs. There are no marital restrictions for this program. See BuPers Inst. 1510.69D.

* OCS

Active duty enlisted men and women holding a baccalaureate degree or higher with a minimum of 120 semester hours may apply for officer candidate training at Newport, R.I. There are no marital restrictions. The age and physical requirements vary. See BuPers Inst. 1120.29.

* INTEGRATION

Men and Women applicants must be between the ages 19 and 25, have 30 semester hours of college or be a high school graduate and have a GCT or ARI score of 60 or above. Warrant officers must have two years in grade while enlisted personnel must have at least three years of continuous active duty in the Regular Navy. See BuPers Inst. 1120.18F.

* NAVCAD

Unmarried male enlisted personnel between the ages 18 and 25 who have successfully completed 60 semester hours or have 30 semester hours and a combined GCT-ARI score of 120 and MECH of 58. (GED test will be accepted in lieu of 30 semester hours.) See BuPers Inst. 1120.208 for complete details.

* AOC

Pilot training— Male personnel between the ages 19 and 26 who possess a college degree and are qualified in all other respects may become a Navy pilot through the Aviation Officer Candidate Program. There are no marital restrictions. See BuPers Inst. 1120.29A.

In addition, there is also an AOC (1355) program which leads to a commission in Aviation (other than pilots) for qualified personnel who are between the age of 19 and 27 and possess a baccalaureate degree. See BuPers Inst. 1120.29A.

Study Courses and Material on Military Requirements

Here is the latest list of training courses and other publications used to prepare the examination questions on the military requirements for all pay grades.

You must complete the courses marked with an asterisk (*) and have them recorded in your service record before you can be recommended for advancement.

The two mandatory courses for E-8 and E-9 are waived for the August 1960 exams. However, material from these publications will be used in the August 1960 exams and the courses will be required thereafter.

It will be to your advantage if

you also study all of the publications indicated for the pay grade in which you are to be examined, as well as those for all lower rates. The bibliography of required training courses and study guides for the professional portions of all advancement in rating examinations can be found in the current issue of the "BuPers Manual of Training Publications for Advancement in Rating" (NavPers 10052-H). If Enlisted Correspondence Courses (ECC) are available, their NavPers numbers are listed. As new courses become available they are listed in ALL HANDS Magazine.

Applicable Rates	Publication Titles and NavPers Number	NavPers No. of ECC and OCC
3,2	*Military Requirements for Petty Officers 3 and 2 (NavPers 10056)	91206
1, C	*Military Requirements for Petty Officers 1 and C (NavPers 10057)	91207
3	Basic Military Requirements (NavPers 10054)	91202
3	Standard First Aid Training Course (Chapters 1-4, 6-8, 11, Appendix 10) (NavPers 10081)	91217
3, 2, 1, C, E-8 & E-9	ABC Warfare Defense (Chapters 1-7) (Chapter 8) (NavPers 10099)	
3	Uniform Code of Military Justice Art. 7 through 16, 31 & 55	
2	Art. 25, 27, 37, 107, 116 & 117	
1	Art. 38, 77, 78, 109 & 139	
E-8	Art. 3, 32, 43	
E-9	Art. 64 through 67	
1	Manual for Navy Instructors (NavPers 16103-B)	
C	Navy Regulations Art. 1811, 1813, 1814 & 1817	
E-8 (all ratings)	Administration of CPO Messes Ashore (NavPers 15800)	
E-8 & E-9	Division Officers Guide U. S. Naval Institute	
E-8 & E-9	Status of Forces Agreements (NavPers 10008)	
E-8	*Navy Regulations	10740-A1
E-9	*Military Justice in the Navy	10993-2

mal points. You receive double credit for service in pay grade and are allowed a maximum of 20 points.

As an example of credit for service in pay grade, take the case of the CT3 cited above. He was advanced to CT3 on 16 Nov 1959. On the terminal eligibility date for the August 1960 exams (16 Nov 1960) he will have served exactly one year in pay grade E-4 (01-00). Therefore, he will be credited with the numerical factor of 02.00 for time served in pay grade.

Credits for total naval service and for time in pay grade are computed in the same manner as for eligibility for advancement, as described on page 28 and in Part II of BuPers Inst. P1430.7D with the following exceptions:

Continuous service is not required; therefore, time served before broken service is counted in all computations for advancement multiple.

Service before reduction in rating for any reason may be counted in all computations for advancement multiple.

If information necessary for computing multiple is not contained in your current service record, your personnel officer may obtain it from the Chief of Naval Personnel using form NavPers 589 (Request for Service Record Data for Advancement in Rating).

All awards you have received that are creditable in figuring your final multiple must be listed and credits specified. Multiple credit for awards, with a maximum of 10:00 allowed, is scored as follows:

Award	Multiple Credit
Medal of Honor	6.00
Navy Cross	5.00
Silver Star Medal	4.00
Distinguished Service Cross (Army)	4.00
Distinguished Flying Cross	4.00
Navy and Marine Corps Medal	3.00
Soldier's Medal (Army)	3.00
Bronze Star Medal	3.00
Air Medal	3.00
Gold Life Saving Medal	3.00
Silver Life Saving Medal	3.00
Commendation Ribbon	3.00
Letter of Commendation	2.00
(Without authority to wear ribbon, if addressed personally to the individual from the President, Secretary of Defense, Secretary of the Navy, or Chief of Naval Operations.)	
Purple Heart	2.00
Good Conduct Medal or Clasp	2.00
Presidential Unit Citation (only if entitled to wear with star)	1.00
Navy Unit Commendation	1.00
Distinguished Unit Badge (Army)	1.00

In the case of Good Conduct Medals, an award may also be listed if it is anticipated that it will be earned by the terminal eligibility date.

Performance Test

If a performance test is required for your rating and you have successfully completed it, a "passed" entry should be recorded in the performance test block of your NavPers 624W. If you failed the required performance test or did not complete it, you will not be eligible to compete in the advancement in rating examination.

Dates of the expiration of your current obligated active service and when you were advanced to your present rate should be indicated as well as a record of completion of required military and professional practical factors, training courses and service schools attended.

After reviewing your NavPers 624W, you are then put to the big test. The Examining Board will provide you with detailed instructions pertaining to the examination and how to use the new punched card answer sheets.

Examination Score

Your examination score is determined by the Naval Examining Center on a 0-80 basis. This score is then added to your final multiple.

It should be noted that one of the most important factors for eligibility for advancement is passing the examination. If you fail the exam, you cannot be advanced, regardless of what score you receive on your final multiple.

Your examination score is combined with the weighted credits for total service, for time in present pay grade, for performance and awards to form the final multiple. Each of these factors was described in detail earlier in this story. Final multiples are determined by the sum of the following factors:

Factor	Maximum Credit
Examination Score	80.00
Performance Factor	50.00
Total Active Service	20.00
Service in Pay Grade	20.00
Awards	10.00
Total	180.00

Advancement Quotas

Advancement to pay grades E-4 through E-9 are subject to quota control in all ratings and pay grades. Quotas are administered on a Navy-wide basis. They are determined by the Chief of Naval Personnel based



THIS IS IT—Know your Navy job and responsibilities when you take the test.

on the vacancies in each rating and on maximum number of additional petty officers that can be supported within the authorized enlisted strength of the Navy.

Quotas are administered through the Commanding Officer, Naval Examining Center for pay grades E-4, E-5 and E-6; and by the Chief of Naval Personnel for pay grades E-7, E-8 and E-9.

The determination of which eligible personnel may be advanced within quota limitations will be

made on the basis of final multiple standings, except for pay grades E-8 and E-9 which are determined by a selection board. In determining advancements, only candidates who participated in and passed the most recent Navy-wide examination for that rate will be considered.

From time to time, quotas are divided into 'increments'—groups with different advancement dates—in order to advance the maximum number of candidates. Personnel are included in increments according to

NO GIFT—The Navy affords you the opportunity for advancement but it does not simply hand out crow's and stripes. Qualify and earn your promotion.





WELL WHAT DO YOU KNOW? Navy men get ready to test their knowledge as they fill out forms prior to taking examination for third class petty officer.

final multiple standings.

Quotas for administrative advancements of temporary officers to pay grade E-7 in their enlisted status are unlimited. Administrative advancements made under this provision are not authorized to pay grades E-8 and E-9.

Results of Examinations

Individual commands will be notified of the results of examinations for advancement (or simultaneous change in rating and advancement) by letter from the Commanding Officer, U. S. Naval Examining Center. Except for pay grade E-7, these notifications will also designate personnel whose final multiple scores were high enough to place them within the quota for advancement in accordance with the quota control system.

Notifications from the Naval Examining Center will also contain authority for change in rating in equal pay grade of personnel who participated for that purpose and who passed the examination.

For advancement to chief petty officer, a BuPers Notice in the 1430 series will be issued listing those candidates for pay grade E-7 who passed the examination and had a final multiple score high enough to

place them within the quota for advancement. The results of the exams for pay grade E-7 distributed by the Naval Examining Center indicate only whether the candidates passed or failed the examination and are for information only.

A BuPers Notice in the 1430 series will be distributed listing candidates who have been selected for advancement to pay grades E-8 and E-9.

The examination results of Naval Air Reserve Training (TAR) personnel in pay grades E-4 through E-7 will be furnished to the Chief of Naval Air Reserve Training, who in turn will distribute the examination results to personnel concerned.

Convening authorities will be furnished a service-wide statistical summary of the results.

Authority to Advance

Upon receipt of authorization from the Naval Examining Center, individual commanding officers may advance eligible personnel within the proper paths of advancement as follows:

- *Regular Navy and Naval Reserve on active duty (other than TARs serving under the Chief of Naval Air Reserve Training)*—

To pay grades E-4, E-5 and E-6 after being notified by the CO.,

Naval Examining Center, that the personnel concerned may be advanced within quota limitations. This notification will be in the form of a letter to each command.

To pay grades E-7, E-8 and E-9 when notified by the Chief of Naval Personnel that advancement is authorized. This notification will be in the form of a letter from the Chief of Naval Personnel, and a BuPers Notice in the 1430 series.

- *TAR personnel on active duty in the Chief of Naval Air Reserve Training Program*—

To pay grades E-4, E-5 and E-6 after being notified that personnel concerned successfully passed the Navy-wide examination and provided that an actual vacancy exists. This notification will be made by the Chief of Naval Air Reserve Training.

From pay grade E-6 to E-7 to fill actual vacancy, subject to such quota control as may be exercised by the Chief of Naval Air Reserve Training. Candidates must successfully pass the Navy-wide examination and must be recommended by the Chief of Naval Air Reserve Training to fill an actual vacancy. Personnel in the TAR Program selected for advancement to E-8 and E-9 will be notified via their CO, by a letter from the Chief of Naval Personnel and a BuPers notice in the 1430 series.

Effecting Advancements

BuPers Instruction 1080.45 (Subj: Utilization of the Navy Enlisted Personnel Diary in lieu of Certain Military Pay Record Vouchers) specifies the service record and personnel diary entries necessary to report advancements and changes in rate and rating.

Petty Officer Appointment Forms

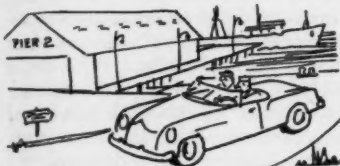
Commanding officers will present Petty Officer Appointment Forms to enlisted personnel of the Regular Navy and Naval Reserve upon advancement to pay grades E-4, E-5, E-6, and E-7 acting appointment. The "date of rank" will be the effective date of advancement as indicated in the advancement notification.

In the case of personnel advanced to E-7, it will be specified in the form that the advancement is an acting appointment. The Chief of Naval Personnel will issue certificates for changes in status to chief petty officer, permanent appointment, in accordance with the provisions of Article C-7209, BuPers Manual.

Here's How to Stay on the Right Road to Advancement

Last year, 37,600 people were killed in automobile accidents and 2,870,000 were injured, an increase of 50,000 casualties over 1958. That's a lot of people.

Let's see what the figures mean. More men, women and children



... allow enough time to cover mileage

were injured in the United States in traffic accidents in 1959 than can be found in the combined populations of Cincinnati, Boston, New Orleans and San Francisco. Try to imagine those four cities completely populated by accident victims, many of them permanently maimed or crippled. And, automobile accidents in 1959 caused enough deaths to wipe out the equivalent of the population of New London, Conn., or Beverly Hills, Calif.

Since the invention of the horseless carriage some 50 years ago, 62 million Americans have been killed,



... don't pass on curves or hills

crippled and maimed in automobile accidents. More people have died on the highways than on our nation's battlefields, and more have been injured than in all the world's wars combined.

What causes these accidents? It's not the automobiles alone that are dangerous, although cars that ran away—with no driver behind the wheel—did kill 30 people last year. The fault does not lie with the mechanical condition of the car. In 95 per cent of the accidents in which people were killed in 1959, the automobiles were in apparently good condition. *It's not the car's fault.*

We could try to blame the accidents on weather conditions, but the

statistics are against that. Oddly enough, snow, rain and fog are not prime causes of road mishaps.

Less than two per cent of the accidents in which people were killed occurred in foggy weather; only nine per cent in rainy weather; and only two and one half per cent in snowy weather. The weather was clear in 86 per cent of the death-dealing tragedies.

No, it isn't bad weather that causes the high number of accidents. The accident rate actually goes down when the weather turns unfriendly. Perhaps more people stay home. But then possibly it's because the drivers who do venture out are aware of the danger and drive carefully and cautiously.

We might, in a defensive maneu-



... slow down for children

ver, try to put the blame for the nation's high accident rate on buses, taxis and trucks. But again the facts will not bear us out. For although the commercial vehicles in this country account for half the total mileage rolled up in a year, four out of every five vehicles involved in personal injury accidents were passenger cars.

So, no matter how you cut it, it seems that it's just the ordinary person in an ordinary automobile, on a clear day, who is causing all



... don't drive when feeling snoozy

the havoc.

What does this joker look like on his way to an accident? Probably he's in a little too much of a hurry. Most likely he isn't paying too much attention to caution signs, isn't stopping fully for stop signs, and quite

possibly he has let his mind wander off his driving. Does he sound familiar?

Over a long holiday weekend, radio announcers predict the number of Americans who will be killed in automobile accidents that weekend.



... obey all traffic signs

And as the hours pass, the death toll mounts and everyone wonders whether people will drive safely enough to fool the experts and come under the predictions, or if there are so many incautious drivers that the total will exceed the predictions.

However, while the experts can tell us how many will die, they can't tell us who will die. We can be told, for example, that approximately 400 persons will die between Friday night and Monday night on a typical three-day Fourth of July weekend. But no one knows yet which 400.



... drive safely, arrive safely

Nevertheless, the experts can tell us which highway travelers stand the best chances of coming out alive.

The driver who stays alert, who obeys traffic signs and signals, who makes sure he's had enough rest before driving, and who leaves his drinking for another time stands the best chance of getting home free.

With the accident statistics skyrocketing into the millions each year, safe driving becomes not only a duty but a matter of self-preservation.

One further point—although they include less than 14 per cent of the population, drivers under the age of 25 were involved in nearly 29 per cent of all fatal accidents in the U. S. during 1959.

Incidentally how old are you?

THE BULLETIN BOARD

Roundup on Retirement for Officers and Enlisted Personnel

OFFICER OR ENLISTED, most Navy careermen contemplate retirement some time, and have questions concerning it. For enlisted men, retirement comes only after 30 or more years' active service, but officers may be affected by any of a myriad of retirement laws. Here is a roundup of the latest information on the subject.

The Chief of Naval Personnel issues orders to officers for release from active duty incident to retirement. Voluntary retirement orders will be issued only after approval of retirement by the Secretary of the Navy. Your orders will contain the effective date of retirement, the detachment date, the law or laws under which you will retire, and grade in which such retirement is to be effected.

In the case of enlisted Navymen, the Chief of Naval Personnel issues an authorization to your commanding officer to effect your retirement. You are usually detached as of the last day of the month, since retirements become effective and retired pay commences on the following first day of the month.

Accrued leave, creditable at the date of retirement, is payable in a lump-sum amount not to exceed 60 days' basic pay and allowances in effect on the day prior to date of retirement. You cannot use this accrued leave for "terminal" leave subsequent to detachment from your last permanent duty station or from a separation activity. If you are continued on active duty from the date of retirement, the lump-sum payment will be made whenever you are finally released from active duty.

If you are on sea duty or outside the continental limits of the United States, you will be ordered to the nearest continental port of debarkation for separation unless you have specifically requested to be separated outside continental U. S. You may be separated at your overseas duty station if you so desire.

If you are an officer or warrant officer, you should submit your re-

All-Navy Cartoon Contest
C. Wise, HM1, USN



"Is this constructive criticism or a chewing out?"

quest for separation to the Chief of Naval Personnel. Those Navymen on duty within the continental U. S. will normally be separated by the activity to which attached, or the nearest activity capable of effecting separations; an officer may be separated elsewhere only if he has declared this area to be his final home of selection for retirement by means of a formal written statement to the Chief of Naval Personnel. In no case is a separation authorized at any activity which would result in additional cost to the government.

When you retire your pay accounts are closed out and forwarded to the Navy Finance Center, Cleveland, Ohio, where retired pay accounts are carried. You should address all requests, inquiries and statements relating to your retired pay directly to that office. Unless you request otherwise, all allotments for insurance will be automatically continued when you retire. All other allotments are stopped. Nondisability retired pay is subject to income tax and this tax is withheld by the Finance Center when applicable.

When you request voluntary retirement, or are faced with involuntary retirement for statutory reasons, it is important that you obtain a

complete retirement physical examination. This examination should be obtained sufficiently far in advance of the prospective date of retirement to permit correction of minor physical defects, or, if major defects are found, to make possible completion of physical retirement proceedings before the date otherwise scheduled for retirement.

Since most statutory retirements are mandatory by law and cannot be canceled or delayed, it is quite conceivable that, even though you were otherwise eligible for disability retirement, you might be forced into a nondisability retirement while disability retirement proceedings were still in progress. Procedures have been set up to forestall the necessity of cancelling voluntary retirement, and to afford anyone being retired involuntarily the opportunity to obtain disability retirement, if qualified, before his statutory retirement date. They are:

- If requesting voluntary retirement you must submit to the Chief of Naval Personnel (Attn: Pers-B52) a substantiated notice of a successfully completed retirement physical examination before your request will be forwarded to SecNav for final action. This notice may be an endorsed copy of temporary additional duty orders, a certified copy of BuMed Standard Form 88, or a signed statement by the examining medical officer. This physical exam must be taken within three months of your retirement date.

- The same provisions apply to those being retired for failure of selection for continuation in the grades of captain or commander, statutory age or statutory service. If you are faced with such mandatory retirement, physical disability retirement proceedings require a minimum of one month from the conclusion of the physical evaluation board hearings to the final determination of fitness by SecNav. You should, therefore, take your pre-retirement physical at least three months before your scheduled retirement date.

• Involuntary retirement of a permanent warrant officer may, at the discretion of SecNav, be deferred for four months or less when proper evaluation of his physical condition and possible entitlement to disability retirement makes a period of hospitalization or medical observation necessary—a period which cannot be completed before the date retirement would otherwise be required.

• COs may reference BuPers Inst. 1811.1B as authority for ordering you to a medical activity to complete a retirement physical exam. Where travel is required, you should obtain TAD orders.

As a general rule you are retired in the grade or rate in which you are serving at the time of retirement. However, if you previously served in a higher officer grade than that held at the time of retirement, and SecNav determines that your service in such officer grade was satisfactory, you will, after retirement, be advanced on the Retired List to the higher grade.

A permanent warrant officer who desires retention on active duty beyond 30 years' active service must submit his request to SecNav via the chain of command, the chief of the cognizant bureau in the case of staff officers, and the Chief of Naval Personnel. This request must be submitted approximately four months in advance of the completion of 30 years' service. It should contain the number of months' extension desired, but not beyond age 62 for men and age 55 for women.

How to Compute Retired Pay

An officer or enlisted man who voluntarily retires under any law cited in BuPers Inst. 1811.1B which requires 30 or more years of active service for retirement is entitled to retired pay at the rate of 75 per cent of the basic pay to which he would be entitled if serving on active duty in the grade in which retired, or to which advanced on the Retired List.

An officer who is voluntarily retired under a law requiring more than 20 but less than 30 years of active service for retirement, or is involuntarily retired for age and/or statutory service, is entitled to retired pay at the rate of two-and-a-half per cent of the basic pay to which he would be entitled if serv-

ing on active duty in the grade in which retired, or to which advanced on the Retired List, multiplied by the sum of: his total years of service creditable for basic pay purposes as of 31 May 1958; his total years of active service, including active duty for training, performed after 31 May 1958; if not previously included, total years of constructive service credited for basic pay purposes by the Act of 30 Apr 1956, 37 USC 233(a) (7) (applicable only to officers of the medical and dental corps).

If in the Reserve he's entitled to one day's credit (with a max-

imum of 60 days' credit for any one year) for each retirement point earned as a member of a Reserve component after 31 May 1958, through authorized attendance at drills, periods of equivalent instruction or appropriate duty performed as authorized by the appropriate naval district commandant or the Chief of Naval Personnel, completion of correspondence courses, and 15 points per year gratuitous credit for Reserve membership.

A part of a year that is six months or more which may be obtained by adding the total service outlined above will be credited as a whole

WHAT'S IN A NAME

Vanguard I

The first Vanguard satellite was placed in orbit on 17 Mar 1958. When it completed its second year in orbit this spring, it had traveled 281,500,000 miles, and provided information which changed our theories about the structure of the earth, corrected our ideas about the density of the atmosphere at high altitudes (around 400 miles), and helped us to improve the accuracy of our maps.

Vanguard I still reports its position by radio. The continued broadcast is possible because it employs solar cells to provide power. Slowed only slightly by the near vacuum in which it travels, it will probably be in orbit more than 200 years—perhaps as long as 1,000.

The Vanguard program has also provided hardware for other missile efforts. Vanguard I demonstrated the usefulness of solar cells. The "Able" in the Thor-Able and Atlas-Able vehicles are the Vanguard second and third stages. The more efficient of the two third-stage rockets developed for Vanguard finds other wide applications in space exploration. The other two Vanguard satellites are still in orbit but are silent because their radios were battery-powered.

Of the seven Vanguard vehicles capable of putting satellites into orbit, three succeeded. All three are still in orbit. The last one, a full scale satellite, reported environmental conditions, studied the earth's magnetic field and examined solar X-rays. The second one examined meteorological data. Scientists are still studying the masses of data from these satellites to determine final conclusions. Both of these were battery-powered and are now silent.

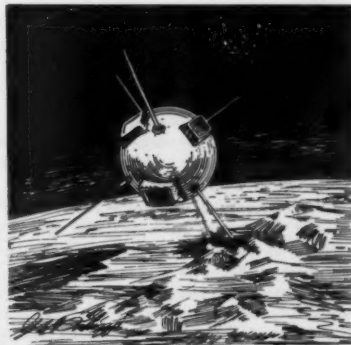
Vanguard I, the "baby moon", was placed in orbit with a perigee, or closest approach to the earth, of just over 400 miles—the highest of any earth satellite.

Vanguard's stable orbit makes possible the determination of the earth's irregularities and the far outer atmosphere characteristics. The oblateness (flattening of the poles) of the earth was found to be 1/298.3 instead of the older figure of 1/297. This is of importance in accurately mapping the earth and understanding its structure.

Refinement of the geodetic data from Vanguard I showed the earth was slightly pear-shaped—the stem at the North Pole. The deviations are about 500 feet in 4000 miles. Vanguard satellites showed the density of the atmosphere at 400 miles to be many times greater than had been supposed from earlier work.

Furthermore, these Vanguard measurements of outer atmosphere showed the density was variable and was connected with solar radiation.

It was originally thought that meteoritic dust might sand-blast and seriously damage satellites. The very fact of continuing radio transmission from Vanguard I indicates that normally this erosion is not serious.



THE BULLETIN BOARD

year for multiplier purposes. An easy method of determining the multiplier for anyone who has been on active duty continuously since 1 Jun 1958 is to subtract the pay entry base date as shown in the current Navy Register (NavPers 15,018) from the last day of active duty. An example: A commander is to be retired on 1 Jul 1960. His pay entry base date is 12 Oct 1938.

Year Month Day			
60	6	30	(last day ACDU)
38	10	12	(pay entry base date)
—	—	—	
21	8	19	

WAY BACK WHEN

Smith to the Rescue

Any Navyman who's a veteran of wartime transport duty can still break out in a cold sweat when he recalls how super-crowded his ship became when four or five thousand battle-equipped troops were jammed aboard. Many submariners, too, retain harrowing memories of rescuing survivors of a torpedoed ship, then sharing already over-crowded quarters, sometimes for weeks, before reaching port.

When it comes to cramming, however, the destroyer USS *Smith*, a small four-stacker of the World War I era, went about as far as it was possible to go—and still stay afloat.

Smith was 293 feet long, and weighed but 700 tons. She had a complement of fewer than 100 (four officers, 84 enlisted), yet, for a few hours one July night in 1918, she bulged at the seams with more than 700 extra passengers.

It came about like this. On 1 Jul 1918 *Smith* was escorting the transport *Covington* (ex-commercial liner *Cincinnati*) from Brest, when, shortly after 2100, *Covington* was struck by a torpedo.

Let *Smith's* log tell the next part of the story.

"8 p.m.—12 p.m., 1 July: At 9:00 changed course to 240 degrees true. At 9:07 saw heavy cloud of black smoke above *Covington's* smoke stacks. Changed course to right and heaved over towards *Covington*. Went to general quarters and went ahead to emergency full speed. *DeKalb* headed off about 30 degrees to the left, remainder of convoy about 30 degrees to the right. Proceeded to point 1000 yards on port quarter of *Covington* and laid a barrage of 22 depth charges, all charges functioning. Was followed by *Porter* and *Little*, who are believed to have also dropped depth charges. Proceeded to *Covington*. *Covington* fired several shots from port after gun. Circled her twice.

As you can see, the commander's retired pay is computed at two-and-one-half per cent times monthly basic pay of a commander with over 20 but less than 22 years' service creditable for basic pay purposes, multiplied by 22.

Retired pay of a warrant officer who is retired under any law cited in BuPers Inst. 1811.1B will be based upon the applicable monthly basic pay of the grade in which retired, or to which advanced on the Retired List, but if the applicable basic pay of the grade to which advanced is less than that of any war-

rant grade satisfactorily held while on active duty, his retired pay will be based on the higher applicable basic pay.

Retired pay of any permanent Regular officer who served as a member of the military or naval forces before 12 Nov 1918, and who is retired under any law cited in BuPers Inst. 1811.1B, will be at the rate of 75 per cent of the basic pay to which entitled at the time of retirement.

In no case will retired pay exceed 75 per cent of the basic pay on which such pay is based.

Travel to Home You Select

You have one year from date of retirement, or one year from date of final detachment if continued on active duty after retirement, within which to select a home and complete your travel. Advance payment of mileage is not authorized. If you are going to live outside the U. S., you should submit an application for travel to the command which has authority to provide overseas transportation.

In order to receive transportation or reimbursement for transportation you must have your retirement orders endorsed showing the place selected as a home. You must actually perform travel to that place. Transportation for dependents and shipment of household effects to another place is not authorized.

However, shipment of household effects from the last and any previous duty station and/or place of storage to your home of selection is authorized. Household goods may be turned over to a supply officer or carrier for shipment up to one year after the date of your retirement.

Rights and Privileges

As a retired Navyman not on active duty you are entitled to wear the prescribed uniform of the grade held on the Retired List whenever wearing of the uniform is appropriate.

You are authorized to use your military title in connection with commercial enterprises.

You rate the privileges of commissary stores, small stores, officers clubs and armed service exchanges, subject to the limitation of available facilities.

Again subject to availability of facilities, you and your dependents may receive hospitalization, in-



patient and out-patient treatment at medical facilities (see Chapter 21 of the *Manual of the Medical Department*).

If surplus space is available, you and your dependents may take one round trip per year on an MSTs ship, subject to payment of applicable charges.

Responsibilities and Obligations

You are subject to the Regula-

tions of the Secretary of the Navy and to the *Uniform Code of Military Justice*.

You may be ordered to active duty in time of war or national emergency at the discretion of SecNav, but in time of peace only with your consent.

You are barred from wearing the uniform in connection with non-military, personal, or civilian enter-

prises, or activities of a business nature. In a foreign country you may wear the uniform only when attending, by formal invitation, ceremonies or social functions at which the wearing of a uniform is required, or by the regulations or customs of the country.

You must report your address annually on 1 January to the commandant of your naval district.

Laws and Regulations Pertaining to Retirement of Officers

Voluntary Retirement

In determining whether the active service requirement for voluntary retirement has been met, all active duty, including active duty for training, as a commissioned officer, warrant officer, enlisted man, or aviation cadet (appointed or enlisted) in the Navy, Marine Corps, Army, Air Force or Coast Guard, or in any of the Reserve components is creditable.

Years Active Service	Law	Applicable to
40 or more	10 USC 6321	Officers of the Regular Navy holding a permanent appointment in the grade of warrant officer, W-1, or above.
30 or more	10 USC 6322	Officers of the Regular Navy holding a permanent appointment in the grade of warrant officer, W-1, or above.
30 or more	10 USC 6326	Enlisted men, including members who held a permanent enlisted grade and are serving under a temporary appointment in the grade of warrant officer, W-1, or above.
More than 20, at least 10 of which have been commissioned service (warrant officer, W-2, or above).	10 USC 6323	Officers serving in the grade of commissioned warrant officer, W-2, or above, including those who hold a permanent enlisted grade, and are serving under a temporary appointment as a commissioned WO, W-2, or above.
20 or more	10 USC 1293	Warrant officers, W-1, or above, including permanent warrant officers serving under a temporary appointment in the grade of ensign or above, and also including those who hold a permanent enlisted grade and are serving under a temporary appointment in a warrant, W-1, grade or above.

Note: A permanent warrant officer (W-1 or above), who retires while serving under a temporary appointment in the grade of ensign or above, will be retired in his permanent warrant grade and, after his retirement, will be advanced on the Retired List to the highest grade in which he served satisfactorily, as determined by SecNav. His retirement pay, however, will be computed on the basic pay of his warrant grade or on the basic pay of the grade to which advanced, whichever provides the higher retired pay.

Statutory Age and/or Service Retirement Male Officers (Other than Warrant Officers)

Law	Applicable to	Requirements
10 USC 6390	Permanent regular officers	Each officer below the grade of FADM will be retired on the first day of the month following the date on which he attains age 62. The President may defer the retirement of any such officer for as long as he considers advisable, subject to the following conditions: (a) the retirement of any such officer may not be deferred beyond the date he reaches age 64, and (b) not more than 10 officers whose retirement is so deferred may be on active duty at any one time.
10 USC 6371 (For RADM, unrestricted line);	Permanent regular officers	Each RADM of the unrestricted line, if not selected for continuation on the active list after 35 years' total commissioned service with five years in grade, will be retired on the first day of July immediately following the fiscal year in which he failed of selection for continuation.
10 USC 6372 (For RADM, restricted line and staff corps).	Permanent regular officers	Each RADM of the restricted line or of the staff corps, if not recommended for retention on the active list after 35 years' total commissioned service with seven years in grade, will be retired on the first day of July immediately following the fiscal year in which he failed of retention.
Act of 11 Aug 1959 (Public Law 86-1551) The "Hump" bill.	Permanent regular officers (except officers of the Medical Corps, Dental Corps, Medical	An officer who is considered by a continuation board convened under this act and who fails of continuation on the active list, shall, unless sooner selected for promotion, be retired on the first day of July immediately following the fiscal year in which the report of the board is approved, or on the first day of July following the fiscal year in which he completes 20 years' total commissioned service, whichever is later, and will thereafter be considered for all purposes as having been retired upon own application

(Continued on next page)

THE BULLETIN BOARD

Law	Applicable to	Requirement
	Service Corps, or Nurse Corps, during the effective period of the Act of 27 Jun 1957, PL 85-62, and LDO officers).	under the provisions of 10 USC 6323. If the report of the board is approved less than six months before the end of the fiscal year, the retirement of the officer will be deferred until the first day of the seventh month following the month in which the report of the board is approved. Retired pay may not be less than 50 per cent of the basic pay upon which the computation of retired pay is based. An officer who has once been recommended for continuation will not thereafter be considered by a continuation board convened under this Act, but will be subject to applicable statutory retirement law as hereafter outlined.
10 USC 6376 (For CAPT, unrestricted line);	Permanent regular officers	Each captain of the unrestricted line will be retired on the first day of July immediately following the fiscal year in which he completes: (1) 30 years' total commissioned service, if not on a promotion list and if considered as having twice failed of selection to flag grade; or (2) 31 years' total commissioned service, if not on a promotion list.
10 USC 6377 (For CAPT, restricted line and staff corps).	Permanent regular officers	Each captain of the restricted line, if not on a promotion list and if not selected for continuation on the active list, will be retired on the first day of July immediately following the fiscal year in which the officer completes 31 years' total commissioned service. Each captain of the staff corps, if not on a promotion list and if not selected for continuation on the active list, will be retired on the first day of July immediately following the fiscal year in which he completes: (1) 30 years' total commissioned service and if considered as having twice failed of selection for promotion to flag rank; or (2) 31 years' total commissioned service.
10 USC 6379	Permanent regular officers (except LDO officers).	Each CDR, if not on a promotion list and if considered as having twice failed of selection for promotion to the grade of captain, will be retired on the first day of July immediately following the fiscal year in which he completes 26 years' total commissioned service.
10 USC 6380	Permanent regular officers (except LDO officers).	Each LCDR, if not on a promotion list and if considered as having twice failed of selection for promotion to the grade of commander, will be retired on the first day of July following the fiscal year in which he completes 20 years' total commissioned service.
10 USC 6383	LDO officers.	Each officer will be retired on the first day of the second month following the month in which he completes 30 years' active naval service, exclusive of active duty for training. Each LCDR will be retired on the first day of July immediately following the fiscal year in which the officer is considered as having failed of selection for promotion to commander for the second time. If any such officer had the permanent status of a warrant officer when first appointed LDO, he has the option, instead of being retired, of reverting to the grade and status he would hold if he had not been so appointed. If any such officer had a permanent grade below the grade of warrant officer, W-1, when first so appointed, he has the option, instead of being retired, of reverting to the grade and status he would hold if he had not been so appointed but had instead been appointed a warrant officer, W-1.
Nurse Corps Officers		
10 USC 6377	Permanent regular officers	Each CAPT, if not selected for continuation on the active list, will be retired on the first day of July immediately following the fiscal year in which the officer attains age 55 or completes 30 years' active commissioned service as computed under 10 USC 6388, whichever is earlier. Each CDR, if not on a promotion list and if not selected for continuation on the active list, will be retired on the first day of July immediately following the fiscal year in which she attains age 55 or completes 30 years' active service as computed under 10 USC 6388, whichever is earlier.
10 USC 6396	Permanent regular officers	Each LCDR will be retired on the first day of July immediately following the fiscal year in which she attains age 55 or completes 30 years' service computed under 10 USC 6388, whichever is earlier. Each officer serving in a grade below LCDR will be retired on the first day of July immediately following the fiscal year in which she attains age 50 or completes 20 years' service computed under 10 USC 6388, whichever is later.
Women Officers (other than Nurse Corps and Women Warrant Officers)		
Note: Women officers of the Medical, Dental or Medical Service Corps appointed under laws other than the Act of 12 Jun 1948, or under 10 USC 5590, are governed by the same retirement laws as are male commissioned officers of the Medical, Dental, and Medical Service Corps of the Regular Navy.		
10 USC 6398	Permanent regular officers	Each officer who holds a permanent appointment in the grade of commander will be retired on the first day of the month following the date on which she attains age 55

Law	Applicable to	Requirement
10 USC 6399	Permanent regular officers	or completes 30 years' active commissioned service in the Navy or Marine Corps, including Reserve components thereof, whichever is earlier.
10 USC 6400	Permanent regular officers	Each officer who holds a permanent appointment in a grade below commander will be retired on the first day of the month following the date on which she attains age 50. This section does not apply to any officer in the grade of LCDR who is on a promotion list for promotion to the grade of commander, or to any officer while serving as Assistant to the Chief of Naval Personnel with the rank of captain.
		Each officer who holds a permanent appointment in the grade of LCDR will be retired on the first day of July immediately following the fiscal year in which the officer is not on a promotion list and has completed 20 years' active commissioned service in the Navy or Marine Corps, including the Reserve components thereof.

Warrant Officers

10 USC 1263, and section 46(a) of the Act of 10 Aug 1956 (70A Stat. 638).	Permanent warrant officers (male).	Each warrant officer who, having completed not less than 20 years' active service, has attained age 62, will be retired on the first day of the month following the date that is 60 days after the date on which he attains that age. The separation of any warrant officer who, on 1 Nov 1954, was a permanent warrant officer, and who upon attaining age 62 has completed less than 20 years' active service, may be deferred by SecNav until he completes 20 years' active service, but not later than the date which is 60 days after the date on which he reaches age 64.
10 USC 1255, and section 46(b) of the Act of 10 Aug 1956 (70A Stat. 638).	Permanent warrant officers (female).	Each warrant officer who, having completed not less than 20 years of active service, has attained age 55, will be retired on the first day of the month following the date that is 60 days after the date on which she reaches that age. The separation of any warrant officer, on 1 Nov 1954 who, was a permanent warrant officer, and who upon reaching age 55 has completed less than 20 years' active service, may be deferred by SecNav until she completes 20 years' active service, but not later than the date which is 60 days after the date on which she reaches age 60.
10 USC 564;1305	Permanent warrant officers.	<p>(a) 30 years' service. Each warrant officer who has not been selected for continuation will be retired on the first day of the month following the 60th day from the date of completion of 30 years' active service. Any WO recommended by a board of officers, and at the discretion of SecNav may, upon completion of 30 years' active service, be continued on active duty with his own consent, but not beyond the date which is 60 days after the date he attains age 62.</p> <p>(b) More than 18, but less than 20 years' service. Each warrant officer who has twice failed of selection for promotion to the next higher permanent warrant officer grade will be retained on active duty and be retired on the first day of the month following the 60th day from the date of completion of 20 years' active service, if he has not by that time been selected for promotion to the next higher grade.</p> <p>(c) More than 20 years' service. Each WO who has completed 20 years' active service on the date he has twice failed of selection will be retired on the first day of the month following the 60th day from the date of his second failure of selection.</p> <p>(d) Retirement under (b) or (c) above may, at the discretion of SecNav, be deferred in the case of a WO serving on active duty as a commissioned officer who elects to continue to so serve, until such date as SecNav may prescribe.</p>

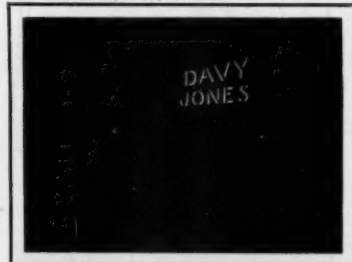
Successful Candidates Start NROTC Training

In September this year 1388 potential naval officers will begin college training at 52 leading colleges and universities throughout the United States. These are the successful candidates who competed last December for appointment.

This group was selected from some 20,000 high school seniors and graduates who applied for the NROTC program last fall. Also selected were 904 alternates. Candidates who enter the program at the start of the academic year this fall will be appointed Midshipmen, in the U.S. Naval Reserve.

Selection committees in each state, were composed of one educator, one prominent civilian and one senior naval officer.

All-Navy Cartoon Contest
D. F. Joachim, JO3, USN



"Dam combination lock!"

Three Correspondence Courses Ready for Regulars, Reserves

Two new officer correspondence courses and one enlisted correspondence course are now available from the Naval Correspondence Course Center, Scotia, N. Y. One course has been discontinued.

The new courses are:

- OCC Leadership (NavPers 10903-A)
- OCC Meteorology (NavPers 10954-B)
- ECC Gunner's Mate 3 (NavPers 91354)

The OCC General Aerology (NavPers 10954-A3) has been discontinued. (See also page 44.)

THE BULLETIN BOARD

Latest List of Motion Pictures Scheduled for Distribution To Ships and Overseas Bases

The latest list of 16-mm. feature movies available from the Navy Motion Picture Service, Bldg., 311, Naval Base, Brooklyn, N. Y., is published here for the convenience of ships and overseas bases. The title of each picture is followed by the program number.

Those in color are designated by

(C) and those in wide-screen processes by (WS). Distribution began in May.

Sink the Bismarck (1507) (WS): Drama; Kenneth More, Dana Wynter.

Sign of the Gladiator (1508) (C) (WS): Drama; Anita Ekberg, Lorella DeLuca.

The Story of Louis Pasteur (1509): Drama; Paul Muni, Josephine Hutchinson.

Elephant Gun (1510) (C): Melo-

drama; Belinda Lee, Michael Craig. *Suddenly, Last Summer* (1511): Drama; Elizabeth Taylor, Montgomery Clift.

The Atomic Submarine (1512): Melodrama; Arthur Franz, Dick Foran.

A Dispatch from Reuters: Drama; Edward G. Robinson.

Who Was That Lady (1514): Comedy; Tony Curtis, Dean Martin. *Seven Thieves* (1515) (WS): Drama; Edward G. Robinson, Rod Steiger.

The Hypnotic Eye (1516): Melodrama; Jacques Bergerac, Merry Anders.

Humoresque (1517): Drama; Joan Crawford, John Garfield.

Rise and Fall of Legs Diamond (1518): Melodrama; Ray Danton, Karen Steele.

Our Man in Havana (1519) (WS): Comedy-Drama; Alec Guinness, Burl Ives.

The Music Box Kid (1520): Melodrama; Ronald Foster, Luana Patten.

Northern Pursuit (1521): Drama; Errol Flynn, Carol Baker.

The Last Voyage (1522) (C): Drama; Robert Stack, Dorothy Malone.

Hell Bent for Leather (1523) (C) (WS): Western; Audie Murphy, Felicia Farr.

Inside the Mafia (1524): Melodrama; Cameron Mitchell.

New and Discontinued Correspondence Courses

Four new enlisted correspondence courses have been issued by the Chief of Naval Personnel.

Here's a list of the new courses and discontinued courses.

Title	No. of Assignments	Navpers No.
*Personnel Man 3 & 2	6	91420-1
*Aviation Boatswain's Mate 3 & 2, Vol. II	5	91637-1
*Dental Technician Repair	6	91689-1
Quartermaster 1 & C	7	91253
*May be taken for repeat credit.		

Discontinued Courses

Personnel Man 3	NP 91419-F
Personnel Man 2	NP 91420-D
Quartermaster 1	NP 91251-1A
Quartermaster C	NP 91252-1A
Handbook for Dental Equipment	
Maintenance & Repair	NP 91689
Baker's Handbook	NP 91444-C
Gunner's Mate 3, Vol. I	NP 91309-C
Gunner's Mate 2, Vol. II	NP 91352-B
Gunner's Mate 3, Vol. III	NP 91353-A

HOW DID IT START

Hospital Corpsmen

Hospital Corpsmen have distinguished themselves in time of war over and over again since the Hospital Corps was founded by an Act of Congress on 17 Jun 1898.

One example of the courage of these Navy medics was exhibited by Robert Eugene Bush, hospital apprentice (now hospital corpsman) first class, USN, on Okinawa in May 1945.

For his performance during that battle, he received the Medal of Honor. Here's the account of his action:

"Fearlessly braving the fury of artillery, mortar and machine-gun fire . . . Bush constantly . . . moved from one casualty to another to attend the wounded. . . . As the attack passed over a ridge top, Bush was advancing to administer blood plasma to a Marine officer lying wounded on the skyline when the Japanese launched a savage counterattack. . . . With the battle held high in one hand, Bush protected his patient against the attackers, drawing a pistol with his free hand, and fired into the enemy's ranks until his ammunition was expended. Then he seized a discarded carbine, accounting for six of the enemy despite his own serious wounds and the loss of one eye." After the enemy was driven back and his patient evacuated, Bush collapsed while trying to walk to the battle aid station.

The courage of this corpsman is not unique among Navy medics. During World War II seven Navy corpsmen earned the Navy Medal of Honor and during the fighting in Korea, one corpsman won the MOH.

The number of men in this corps have doubled many times over since 1898. At the start, there were fewer than 200 hospital corpsman in the Navy. In contrast, on the current chief's list, there are 1030 to be advanced to HMC. Current strength of the Hospital Corps is about 22,700. Among these are some 14,000 petty officers. During World War II, this corps of enlisted medical men reached an all-time high of 137,000.

Before the Hospital Corps was founded,

corpsmen were known by many names. Among them were "loblolly boys," "surgeon's stewards," "baymen," and "apothecaries."

The first formal Navy hospital corps school was established at the U. S. Naval Hospital, Portsmouth, Va., in 1902. This school provided basic instruction in anatomy and physiology, nursing, first aid, hygiene, clerical procedures, and litter drill. Since then, as the science of medicine has progressed, the training of hospital corpsmen has kept pace. A second class "B" type school has now been established in San Diego, Calif., plus numerous technical schools throughout the United States.

Although corpsmen are not doctors, or even registered nurses, many of them are assigned independent duty aboard submarines or other ships which have small crews. It is their responsibility to treat minor illnesses and injuries, and to diagnose more serious illnesses when necessary.

Today the enlisted men and women of this Corps constitute a highly respected medical group. Promotion possibilities are good with advancement possible from hospitalman apprentice to master chief hospital corpsman in the Hospital Corps, and from ensign to captain in the Medical Service Corps.



LETTERS TO THE EDITOR

Instructors on NROTC Duty

Sir: How long is the shore duty tour for instructors on NROTC duty? Some instructors say it is a straight three years, while others contend it is the normal tour of shore duty for their rate. Who is right?

And while you're answering questions, will you also answer this one for me? My enlistment expires in September 1960. At that time I will have completed 20 years of service and I will have completed one year of NROTC instructor shore duty.

I have already agreed to extend my enlistment for one year. Can I now extend for two years, and complete my shore duty, or will I be limited to one year?—J. J. F., QMC, usn.

• Regarding your first question, both groups are right. Personnel who reported for instructor duty on 2 Jun 1958 or before were assigned for a three-year tour. Those who reported for instructor duty after that date were assigned to tours determined by their rate.

So far as your extension is concerned, you will be able to extend to complete your shore duty. Your CO may cancel a one-year extension for the purpose of executing another extension for two years, or he may cancel the one-year extension and let you reenlist for two years.—Ed.

Shore Duty Billets for RDs

Sir: I am an RD1 completing a two-year tour of shore duty at GCA Unit Four, NAS North Island. I would like to know if it is possible for me to change my rating to Air Controlman.

I have attended AC(A) school, and

16-Inch Guns

Sir: I've never served aboard a ship large enough to carry 16-inch guns. As a result, I was at a disadvantage during a recent discussion concerning the subject. A statement was made that gun crews must be clear of the interior of 16-inch gun turrets when those guns are fired using full-charge.

Is this correct, and if so, under what circumstances?—L. R., LT, usn.

• We've never served aboard a ship carrying 16-inchers either, so we took your question up with the Bureau of Weapons. Here's what they had to say on the matter:

"All gun turrets are fixed using full-charge with the gun crews on station in the turret chambers."

Does this answer your query?—Ed.

This section is open to unofficial communications from within the naval service on matters of general interest. However, it is not intended to conflict in any way with Navy Regulations regarding the forwarding of official mail through channels, nor is it to substitute for the policy of obtaining information from local commands in all possible instances. Do not send postage or return envelopes. Sign full name and address. Address letter to Editor, ALL HANDS, Room 1809, Bureau of Naval Personnel, Navy Dept., Washington 25, D. C.

while at GCA No. 4 served as a qualified controller. My job code number was Air Controller 6922—at present I carry 6922 as a secondary NJC.—I. L. D., RD1, usn.

• Billets have been established in GCA units ashore in order to provide shore duty for some RDs. These billets employ the skills of the Radarman, and at the same time provide some shore duty billets for the rating on the sea-shore rotation.

There are no plans for changing the rating of Radarmen serving in such billets to Air Controlman. Obviously, if this were done, shore duty billets for RD would be reduced even more.—Ed.

Air Controlman Rating

Sir: We Air Controlmen hear many rumors regarding our future. For instance: Is it true that our rating is to be changed to RDA (Radarman, Aviation)? If that is the case, what disposition will be made of those AC personnel who do not want to shift over?

Rumor No. Two—Does forthcoming policy call for Navy air control people to be absorbed by the Federal Aviation Agency? If so, how and when?

New subject: I served on board *uss Indiana* (BB 58) for more than three years during World War II. Can you tell me what ribbons and awards *Indiana* earned while she was in commission?—R.S.D., AC1, usn.

• Calm yourself. The Navy has a continuing need for the Air Controlman rating, and there are no plans afoot to switch men currently holding that rating to another field.

As for rumor No. 2—While the FAA may assume greater control over continental air spaces in the future, the agency will not absorb the AC rating. There will merely be a greater degree of coordination between the Navy and other aviation agencies. Air Controlman duties and billets are expected to be very similar to those now in effect.

The only major change at present being considered is to transfer the Air Controlman W (Airborne CIC Operator) rating to the AT rating at the third class petty officer level only. Nacymen

in the ACT and ACR ratings at the third class level, and all AC personnel of pay grade E-5 and above are expected to be retained in the rating.

In regard to *Indiana*—since her commissioning on 30 Apr 1942 she has earned the following awards: American Campaign Medal; Asiatic-Pacific Campaign Medal; World War II Victory Medal; and Navy Occupation Service Medal (Asia Clasp).

You are entitled to all of the above awards except the NOSM (Asia Clasp) which the ship earned for occupation duty from 2 through 15 Sep 1945, after you were detached.—Ed.

Fueling Six

Sir: In your February 1960 issue of *All Hands*, you told about four ships, then five ships being refueled simultaneously alongside a tanker. That's good, but here are two better.

In 1943, while moored to buoy seven in Havana Harbor in the New Hebrides Islands, *uss Lackawanna* (AO 40) had *Cony* (DD 508), *Conway* (DD 507), *Eaton* (DD 510) and *Waller* (DD 466) refueling to starboard and *Dencer* (CL 58) and another destroyer refueling to port.

I remember that particular time because it was the first time I saw my brother during the war. He was an SM2 on board *Conway*.—Robert E. Zornes, SMC, usn.

• Records they come and records they go, and as usual, they grow and they grow. It seems to us that you have a claim here that is going to be hard to beat. We don't claim six ships to be a record, but can anyone prove that it isn't?—Ed.

New Seabag, Thirty Day's Leave

Sir: A shipmate of mine says that during World War II the government paid a bonus of \$500 to Navy men who survived the sinking of their ships. I say all they got was a new seabag and 30 days' leave.

Some of us survivors are still around, and I never received or heard of anything like that.

Who is right?—C. R. B., SF1, usn.

• You are, CR.

There were no statutory provisions for the payment of any such bonus.

As you say, survivors were given a new seabag and 30 days' leave. In addition, they received all the pay and allowances to which they were entitled while in a missing-in-action or prisoner-of-war status.—Ed.



FOLLOW THE LEADER—Flagship of DesRon 32, USS Mullinnix (DD 944), is first of squadron to head for berth at Norfolk on return from Sixth Fleet.

'Always Going' AGRs

Sir: The letter from the commanding officer of USS *Outpost* (AGR 10) in your January Letters to the Editor column concerning the hours steamed by *Outpost* during fiscal year 1959 was noted with interest by all USS *Protector* (AGR 11) personnel.

Even though *Protector* is in the same squadron, the nature of AGR operations dictates independent steaming, and our diehards had to see if *Protector* had outsteamed *Outpost* during fiscal year 1959.

A careful check and recheck of the logs for that 12 months indicated that

Protector was underway 5853 hours and 19 minutes, or 66.9 per cent of the time. And while we feel sure that some other U. S. Navy ship, somewhere, has outsteamed us, we would like to invite the crew across the pier to tip their hats to our "Has Done" crew and to come on over and inspect our slightly larger caliber steaming battery.—LT R. F. Campion, Jr., USN, Executive Officer, USS *Protector*.

Sir: This is to answer LCDR Jones' letter regarding sailing hours of USS *Outpost* (AGR 10). He is proud of his ship, but it is impossible for him to be

more proud than we are of USS *Guardian* (AGR 1).

Since 1955, *Guardian* has missed only one day on station. And then, not because of breakdown, but because of a death in the crew. We think this speaks well of our engineering force.

During calendar year 1958, *Guardian* logged 4785.5 hours for an underway percentage of 54.6. This period included a 60-day yard period in Boston.

In 1959 we were underway 5661 hours for a hat tipping 64.6 per cent. West Coast AGRs may have logged even more hours, but one thing is sure, when more steaming is done, an AGR will do it. One member of our crew swears that the AG in AGR means "Always Going."—The chief's quarters, USS *Guardian* (AGR 1).

• We told LCDR Jones that if his underway percentage of 59.44 for fiscal year 1959 was bettered, he would hear about it. He did.

And we don't think we've heard the end to this story yet.—Ed.

Snow Job

Sir: Your March 1960 issue (page 31) carried an article written by Fred W. Doby, JO1, USN, entitled "Navy Seabees have plenty of 'Snow How'." Among other things, he wrote: "The Navy's first major field experiments in snow compaction were conducted on the Greenland icecap in 1953 and '54."

Maybe the word "major" is the key. At any rate, I was with CBD 1801 from March 1950 to April 1951 at Point Barrow, Alaska, and it seems to me that snow compaction was one of the tests we were involved in. We had most, if not all, of the equipment mentioned in Doby's article.

So "major" or "minor," I contend that we ran snow compaction tests at least three years before the Greenland project. In fact, I wouldn't be surprised if the tests weren't going on a few years before I got there. Seabees have been in Point Barrow since at least 1945, and probably earlier.—R. I. P., DMCA, USN.

• We wouldn't be surprised if you were right.—Ed.

Viet-Nam Ribbon of Friendship

Sir: Your February 1960 issue (Letters to the Editor, Page 44) lists the ships and units eligible for the Viet-Nam Presidential Unit Citation—The Ribbon of Friendship.

I noticed in the list the names of many ships and units to which my old ship, USS *Merapi* (AF 38), furnished services. I think that if the records were checked it would be found that *Merapi* should also be eligible for the award. We were there for quite a spell, and saw much that was going on.—B. L., SKC, USN.

• According to the records, *Merapi* did participate in the evacuation of civilians from Viet-Nam.



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However, the citation as written and awarded by the Viet-Nam Government covers only the months of August and September 1954. Merapi did not arrive in Indo China until 6 Oct 1954. Thus, she and some other vessels which took part in the operation are not eligible for the Ribbon of Friendship.—ED.

Quarters for Muster

Sir: I have been aboard four aircraft carriers as a member of the Staff and of the Air Group and I have a query about the correct procedure for Quarters for Muster and morning colors aboard ship. I rather doubt that the way I have seen it done is the proper one.

Here's the way it has been done. Quarters for Muster was listed in the Plan of the Day as 0745. Yet, unless every man was in place and mustered by 0735 the Squadron CO could not report to the Air Group Commander by 0740, and the CAG couldn't further report to the XO by 0745.

Promptly at 0745 the word was piped "All Hands to Quarters for Muster," all hands having been there 15 minutes already. This word implied (at least to me) that 0745 is the time to go to muster. The POD implies that if you are not in ranks by 0745 you are late. Both implications are wrong.

About 0750 the crew was dismissed. If the weather wasn't too bad, many men milled around until 0755 when "First Call" was sounded. This resulted in a steady exodus from the weather decks. When "Attention" was sounded one would think an aircraft was about to crash. All hands, except for a hardy few who knew better, dived for the nearest hatch to escape having to stand at attention and salute.

I wonder if this is the result of good leadership?—W.S., LCDR, usn.

• *Quarters for muster and morning colors is so much a routine that sometimes, apparently, not enough thought is given to correct procedure.*

Actually little is said in regulations and instructions about correct procedure for quarters. Article 0708(2) of "Navy Regulations" requires that under ordinary circumstances, quarters for inspection will be held daily. Article 0708(5) further requires that a muster of all persons attached to the command be made daily.

Actual procedures are discussed in more detail in NWP 50. Article 133 tells type commanders to establish standard type shipboard organization and regulations for various ships under their cognizance. Article 134 cautions that for uniformity within types, departure from standard ship organizations on the part of commanding officers should be minimized.

An actual schedule for morning muster and colors for aircraft carriers can be found in Standard Ship Instructions, Aircraft Carrier Types—U. S.



END OF THE LINE—USS Banner (AKL 25) rests at anchor in Hong Kong after the light cargo ship has completed a supply run out of Apra Harbor, Guam.

Atlantic and Pacific Fleets.

0745—All hands to Quarters for Muster

0750—Officers Call

0755—First call to Colors

0800—Colors

0800—Quarters for Muster

0815—Turn to

From this schedule, and after reading these instructions, it seems that the crew should go to Quarters for Muster at 0745, and they should remain there until after colors. If this schedule is followed muster wouldn't be called until 0800, and there wouldn't be any mass confusion when Colors are piped.—ED.

Ship Reunions

News of reunions of ships and organizations will be carried in this column from time to time. In planning a reunion, best results will be obtained by notifying the Editor, ALL HANDS Magazine, Room 1809, Bureau of Naval Personnel, Navy Department, Washington 25, D. C., four months in advance.

• *uss Chicago (CA 29)*—A reunion will be held on 4 and 5 September in Chicago. For further information, write to Loren R. Thomas, CSC, USNR, 18 South 3rd Ave., St. Charles, Ill.

• *uss Thomas Jefferson (APA 30)*—The 13th annual reunion will be held on 10 September at the Hotel Park Sheraton, New York City. For more details, write to Frank Mancini, 79-12 208th St., Bayside, N. Y.

• *uss Memphis (CL 13)*—The second reunion will be held at the Statler Hilton Hotel, Cleveland, Ohio, 26-29 August. For additional information, write to Sam Worth, 4019 St.imore Rd., Cleveland 21, Ohio.

• *uss Quincy (CA 71)*—The 9th reunion is scheduled for 12, 13 and 14 August at the Hotel Park Sheraton, New York City. For further details, write to Robert Moore, 68 Allison St., Roselle, N. J.

• *uss LST 277*—A reunion is

scheduled for 13 and 14 August, at Atlanta, Ga. Write to W. S. Irwin, 2601 LaGrande St., S.W., Huntsville, Ala.

• *43d Seabees*—A reunion will be held at the Hamilton Hotel, Washington, D. C., on 15 October. For more information, write to I. K. Williams, Daniel Avenue, Seneca, S. C.

• *107th Seabees*—The 6th reunion will be held 2-5 September, at the Statler Hotel, Hartford, Conn. For more details, write to John Prindiville, 84 Sumner St., Hartford, Conn.

• *uss Stephen Potter (DD 538)*—All who served on board during the Korean conflict who are interested in holding a reunion may write to John R. Weader, R. D. #2, McClure, Pa.

• *uss LST 504*—A reunion of those who served on board during the Normandy invasion is being planned. For details, write to Richard Tourigny, 182-5th St., Leominster, Mass.

• *U. S. Naval Hospital 59*, St. Albans, N. Y.—All staff members who served from August 1955 to August 1957 who are interested in holding a reunion may write to James P. Dennehy, 950 Woodcrest Ave., New York 52, N. Y. Time and location of reunion are still to be decided.

USS Cleveland in WW II: A Tribute to Great Ship

Sir: Can you tell me whether or not any book has been written about the cruiser *uss Cleveland*? I was aboard her in the Pacific as a quartermaster. She was a very active ship.—V. R., ex-USN.

• Now that you mention it, it seems to us that the publishing field is overlooking something here. You are so right when you comment that she was an active ship but, to the best of our knowledge, no book other than a cruise book has been published concerning Cleveland. Until that time, we offer this condensed version of her career.

Cleveland (CL 55) was the second ship to be named in honor of the Ohio city. The first Cleveland, cruiser No. 19, was built in 1900 at Bath, Me., was commissioned on 2 Nov 1903 and operated on patrol in both the Atlantic and Pacific area. She was stricken from the Navy list on 13 Dec 1929 and sold on 11 Mar 1930.

The second Cleveland, a 10,000-ton light cruiser, was commissioned on 15 Jun 1942. Late in October 1942 Cleveland sailed with a force steaming eastward to invade North Africa. After zigzagging for more than a week through sub-infested waters, Cleveland and *uss Ranger* (CV 4) were ordered to cover the landing of General Patton's troops near Fedala, French Morocco, on 8 Nov 1942.

Following the landing, the two ships continued to patrol about 30 miles off Casablanca. On the second day of the patrol Cleveland lookouts spotted four torpedo wakes off the port beam. Radical maneuvers avoided three of them. The fourth one, when about 300-yards to port, suddenly dived sharply, passed under the stern, and surfaced on the starboard side.

On 11 November the ship rejoined the main group en route to Bermuda. After only one night there, however, the ship got underway for Norfolk, Va., in company with *uss Wichita* (CA 45), three escort carriers and five destroyers, and sailed from Lynnhaven Roads to join Admiral Halsey's forces in the South Pacific.

On 27 January Cleveland joined Task Force 18 in the Pacific for her first

combat mission, guarding a large troop convoy en route to Guadalcanal. As the ships steamed northwestward on the 29th, a flock of Japanese torpedo bombers attacked. This first attack was broken up by an anti-aircraft barrage. One plane was shot down.

At 1931, however, the planes were back. This time they penetrated the AA roof. One plane crashed off the port bow of *uss Chicago* (CA 29). The cruiser was silhouetted by the floating bonfire and at 1945 another enemy plane skimmed in and slammed a torpedo into the illuminated ship. Before she could recover, another torpedo struck home. She staggered to a halt; her rudder jammed and her hull listed. *uss Louisville* (CA 28) took her in tow. The following afternoon the stricken ship was detached from the Task Force and headed for Efate with a salvage group. The crippled ship was attacked the following day and was sunk.

After the remainder of the convoy arrived safe at Guadalcanal, Cleveland joined Task Force 68, and sailed on 4 Mar 1943 to bombard Japanese airfields and installations at Vila. Three U. S. planes scouted ahead, and at 2230 the report came of two enemy destroyers at Vila.

The American ships entered Kula Gulf a few minutes after midnight. They steamed in column formation with about 1000 yards between *uss Montpelier* (CL 57), *Denver* (CL 58), and Cleveland as they felt their way down the New Georgia coast on the east side of the Gulf.

At 0057 on 6 March the destroyer *uss Waller* (DD 466) made radar contact with the enemy warships across the Gulf and opened up with a salvo of five torpedoes. Then the cruisers joined the attack. At 0107 the nearer destroyer exploded. Another enemy destroyer was afire, and was an easy mark for the cruisers. By 0110 this destroyer, too, was on its way to the bottom.

The task force ceased fire at 0114 and swung westward to bombard the Japanese airstrip at Vila. For 16 minutes the ships slammed shell after shell into the Vila airstrip and adjacent buildings, leaving it in shambles.

After a short rest Cleveland penetrated deep into enemy-held Solomons on 30 June to bombard the Shortland Islands. This action was to divert attention from the actual objective—invasion of New Georgia.

Following a repair period in Sydney, Australia, Cleveland sailed for Treasury Island where she conducted more bombardments. On the evening of 31 October she sailed with Admiral Merrill's Task Force 39 to the northernmost rung of the Solomons ladder to bombard the Japanese airfields on the Bonis peninsula and on Buka Island. They began shooting at 0021 on 1 November. Thanks to the heavy shelling, there was no serious Japanese air opposition to the amphibious operation on Bougainville.

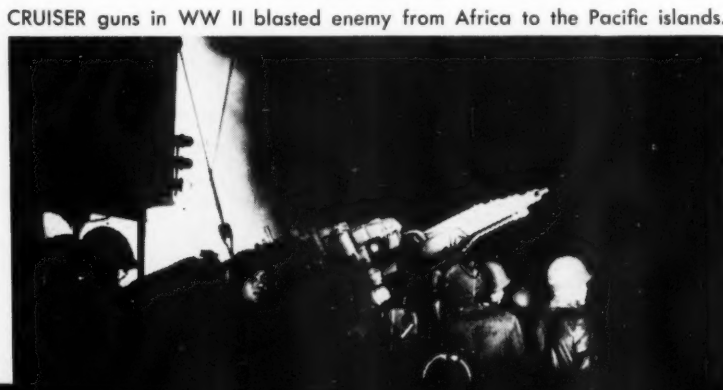
From there the group again bombarded shore batteries in the Shortlands. Though they encountered heavy return fire, there were no losses and material casualties to the enemy were officially listed at 90 per cent.

Meanwhile a strong enemy surface force of four cruisers and six destroyers had departed Rabaul to blast the American transports at Cape Torokina, Empress Augusta Bay, Bougainville Island. Admiral Merrill's cruisers and destroyers received orders to intercept this enemy force.

The cruisers made contact with the enemy force at 0227 on 2 November. Maintaining a position that blocked the entrance to Empress Augusta Bay, the cruisers opened fire 20 minutes later. Enemy eight-inch salvos came through the drizzly night and fell 2500 yards short of their target. Radar-controlled fire from Cleveland and the other American ships hit the enemy before he could correct the error.

As the Battle of Empress Augusta Bay progressed, enemy salvos frequently straddled the American ships. *uss Foote* (DD 511) fell out of formation and was hit by a torpedo. While the destroyers of Division 45 continued to hit the enemy force's portside column, Admiral Merrill's cruisers were engaged in a duel with the Japanese heavies. For over an hour the opposing formations exchanged salvos. Finally, apparently convinced that they had tangled with a larger group of cruisers, the Japanese ships pulled out and fled northwest up the coast of Bougainville. The cruisers chased until daybreak, then Admiral Merrill turned back. The entire battle had lasted three hours. The score: one enemy cruiser and one destroyer sunk; two cruisers and two destroyers damaged. The torpedoed destroyer *Foote* was the only American casualty, and she lived to fight another day.

Dawn brought more than a hundred Rabaul-based enemy dive bombers to attack the main cruiser formation.



CRUISER guns in WW II blasted enemy from Africa to the Pacific islands.

ALL HANDS

Cleveland gunners got three of the first wave, but not before one plane's bombs dropped close aboard, rocking the ship.

From 13 to 18 February Cleveland patrolled between Truk and Green Islands as American forces captured the latter. From 17 to 23 March the cruiser supported the troops who captured Emirau Island. On 14 Jun 1944, she began a series of bombardments which ended with the capture of Saipan, Tinian and Guam.

Operating for a few days with Admiral Marc A. Mitscher's fast carrier task force was a welcome change from the Marianas bombardments. As part of this force Cleveland participated in the first battle of the Philippine Sea. Though this action was fought primarily by carrier-based planes, Cleveland gunners downed two Japanese torpedo bombers.

After delivering more support fire at Saipan, the ship helped recapture Guam, the first former U. S. possession retaken from the Japanese. Cleveland also supported the landing on Tinian. Here, well camouflaged Japanese shore batteries opened fire when landing craft made a feint at the beach. Fire from all ships converged to silence the Japanese. So heavy was the fire from Cleveland's batteries that a nearby ship reported her hit and burning.

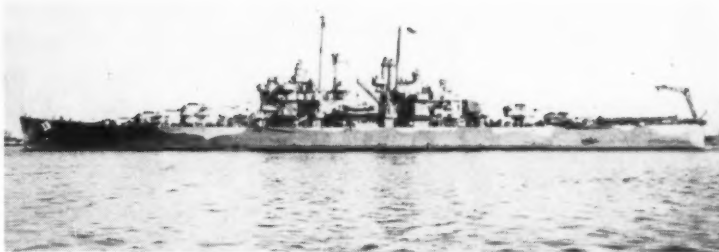
As part of a newly formed task force, Cleveland steamed to Eniwetok, Marshall Islands, where on 14 August Captain (now Admiral) H. G. Hopwood assumed command of the ship. She then proceeded to the Solomons to stage for the invasion of the southern Palau Islands.

From 12 to 29 September she supported the capture of Peleliu, Angaur, and Ngesebus Islands. After this, the 20-month veteran of the Pacific war headed for home. On 21 Oct 1944, Cleveland slid into drydock at San Pedro, Calif.

On 3 Jan 1945, with the ship overhauled and her crew well rested, Cleveland sailed for duty with the Seventh Fleet in the Philippine area. On 9 February the ship anchored at Subic Bay, Luzon. A task group including Cleveland set out from there on 13 February to support the recapture of Corregidor and the landing at Mariveles, Bataan. Cruising through mined waters to within a mile of the island, Cleveland carried out her bombardment. Coordinated with Army Air Force strikes, this kept the island fortress smoking throughout 14 February, the day of the landings on Mariveles.

Next came the Philippines. Toward the end of February, Cleveland covered the Army's landing at Puerta Princesa, Palawan Island, and after refitting, proceeded to the Visayan area. On 18 March she supported the invasion of Panay, the first of the Army's landings in the central Philippines.

On 17 April Cleveland supported the



Light Cruiser USS Cleveland (CL 55)

Army landings in the Malabang-Parang area of Mindanao Island—the last Japanese stronghold in the Philippines.

On 7 June Cleveland sailed from Subic Bay to participate in the liberation of Borneo. Following the landings, Cleveland was released from the covering force on the 11th and proceeded into Brunei Bay to provide close fire support for the ground forces.

The ship returned to Subic Bay on 15 June and then on to Manila, where General MacArthur and his staff embarked to observe the initial assault on the port of Balikpapan, Dutch Borneo. Three sister cruisers had already wrecked Japanese installations and started large oil fires when Cleveland arrived.

Commencing at 0630 the next morning, the ship started a heavy three-hour pre-landing bombardment of Japanese batteries and encampments. During this action enemy antiaircraft fire damaged one Cleveland spotting plane. It was brought back to the ship safe with personnel uninjured, however.

After a short inspection tour of the port by General MacArthur and his staff, Cleveland got underway for Manila. As soon as the official party had disembarked, Cleveland set out for Leyte as part of a cruiser task force.

This force sailed from Leyte to Okinawa, and then started a series of anti-shipping sweeps designed to insure Allied control of the East China Sea. From 12 July to 7 August three series of sweeps were made along the China coast from Foochow to Shanghai. These were the first surface ships of the United Nations to enter these waters after 7 Dec 1941. Although the force operated close to the mouth of the Yangtze River

night after night, no enemy surface opposition was encountered.

On 10 August when peace rumors reached Okinawa, flares and tracers shot up from the beaches and small craft in premature celebration. But despite surrender negotiations, Japanese planes continued to appear.

During the night of 12 August, a lone Jap plane scored a torpedo hit on the battleship USS Pennsylvania (BB 38) anchored near Cleveland. The following night, a transport was hit by a Kamikaze plane in the Buckner Bay anchorage area. Cleveland was not hit.

With the war finally over, the ship left Okinawa on 9 September as part of a covering force of carriers, cruisers and destroyers detailed to evacuate Allied prisoners of war from Wakayama, Honshu, Japan.

After seven weeks of occupation duties in the inland sea of Japan, Cleveland joined the other forces in Tokyo Bay. After a four-day look at the enemy capital she sailed home to join the Atlantic Fleet.

She carried with her a record of 19 shore bombardments, gunfire support for 14 invasions ranging from Morocco to Borneo, seven enemy planes shot down, blockades and anti-shipping sweeps from the Solomons to the East China Sea, and assists in sinking of seven enemy surface units.

In three years of front-line participation, neither Cleveland nor the members of her crew were as much as scratched but they had seen plenty of action.

In January 1947, USS Cleveland (CL 55) was placed out of commission, in reserve, and berthed at Philadelphia. She was sold on 18 Feb 1960.—En.

HEADS DOWN—Altogether USS Cleveland gave fire support to 14 invasions.



Waiting List for Advancement

Sir: Your March 1960 issue carried a letter written by C. A. H., YN3, which advocated some type of waiting list on which those persons "quoted" out of advancement could be placed, and advanced later when openings in their rating occurred.

I thoroughly agree with C. A. H. In your answer to his letter you state that the reason a waiting list wouldn't be workable for the lower grades is that so many of those men are on a first enlistment, and only about 20 per cent of them reenlist.

I believe that a system, similar to that used in advancing first class POs to CPO (advancements made in increments, depending on final multiple), would go a long way toward negating that argument. It is my opinion that a first enlistee, advancing to either PO3 or PO2, would think twice about leaving the Navy if he knew that, as a result of passing the examination, he would be advanced to the next higher pay grade within the next year.

I am attached to a Naval Reserve Training Center, and have had the opportunity to talk to quite a few 2 x 6's who passed the examination, but were quoted out. The large majority of these men state that this is the primary reason for their leaving the service, and further, that if they knew they could eventually be advanced, they would sign agreements to remain on active duty. I believe this would affect the Regular Navyman's thinking too, and might easily be the deciding factor in his decision as to whether or not to reenlist. In any event, it could certainly be considered as an incentive to remain on active duty.—G. E. M., YN1, USN.

• As you are already aware, you are not the first, by any means, or even the second, to urge adoption of a waiting list system for the benefit of those men

who miss out on advancement in rating because of quota restrictions. The advancements section of BuPers has wrestled long and hard with this question, and has, for a variety of reasons, decided a waiting list system just wouldn't work. Here is their thinking on the subject.

Ratings, at the E4 and E5 level, which have quota restrictions imposed already have a first term reenlistment rate that exceeds the desired percentage. It's in the technical ratings that first term reenlistments are needed, and in those ratings advancement opportunities up to and including E6 are 100 per cent. A waiting list, therefore, would only compound an already existing problem.

Even with a stable waiting list, moreover, there would be no guarantee that a man would be advanced within a specified time. Waiting lists could be handled in one of two ways.

One way would be to place all men who pass the examination in a final multiple lineal listing—advance from the top—and then place all men who pass the next examination on the bottom of the list in final multiple lineal order.

This would create another problem even worse than quotas. A man could pass the examination with an extremely high score, but could not be advanced until those ahead of him (who barely passed the previous exam) were advanced. This would certainly have the tendency to drive out of the Navy the "cream of the crop," mainly because of the same reason you quoted from the men with whom you talked.

Another way would be to place all men in a final multiple lineal list regardless of examination taken, and advance from the top.

Surely you can see that those men not advanced because of quota limita-

tions would not be advanced in succeeding examinations because of their original low position. In other words, a man might spend years and years on a waiting list, hoping that his final multiple spot on the list would be reached, only to see other men continually move in ahead of him by achieving higher scores in succeeding tests.—Ed.

Deep in the Heart of Deep Freeze

Sir: As a veteran (22 months in Antarctic Support Activities and 14 consecutive months on the ice) I wish to point out two errors I noticed while looking back through a February issue.

On page 42, in reply to a personnelman's request for information, you say that all records and accounts for Deep Freeze are maintained at the individual Antarctic stations. This was true until October 1958. However, at the commencement of Operation Deep Freeze IV all records and accounts were transferred to McMurdo.

The only exception to this was in disbursing. As the outlying stations did not have disbursing officers, ship store sales were made by credit ledger, and the accounts were paid off by the personnel from outlying stations as they passed through McMurdo on the way home. Even though these men could not draw cash, the money due them each month was the subject of a message to each outlying station, and such matters as changes in allotment were also handled at McMurdo.

I also take exception to your "Now Here's This" in the same issue. In an item entitled "Southernmost College," you say *us Peterson* (DE 152) claims that distinction. But, the University of Antarctica, with classes held in various buildings at McMurdo, is the real titleholder.—W. A. Jackman, PHC, USN.

• It looks as if you've got us cold on both counts.—Ed.

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NEW TWINS—Guided missile frigates USS Dahlgren (DLG 12) and USS William V. Pratt (DLG 13) rest at Philadelphia pier after launching.

Out of Uniform

SIR: The March 1960 issue of ALL HANDS displays on its cover a picture of a chief out of uniform. His hat is not right and he's not wearing the shirt collar insignia as required by Art. 0655, Uniform Regulations.

How many people in the Navy will note this apparent sloppiness in uniform seemingly condoned in the Fleet and at Navy headquarters in Washington? —H. A. Y., LCDR, USN.

• **You're right. We goofed.** We check all photos for proper uniform, but once in a while, one slips through. We're consoled by the fact that every time we do, we get plenty of letters calling our attention to this fact. The importance of wearing the uniform properly cannot be stressed too strongly. Now, you Fleet photographers, how about checking to make sure your subjects are in proper uniform before you click the shutter. We'll do better too.—ED.

Two-Way Winds

SIR: On page 27 of your March issue you ran a picture showing the flags on two destroyers blowing in opposite directions to one another while the ships are nested alongside a tender. You attribute this to "the trickiness of wind currents in Suda Bay, Crete."

During my several visits to Suda Bay I never found the winds unusual. I maintain that if the wind was blowing on the same relative bearing and at the same force upon an AD and two DDs moored in the same manner in any other bay—be it Subic, Guantanamo or Tokyo—the flags would react similarly.

Obviously, the nearest flag is in a

turbulent, back-wind area created by the movement of air around the ships.

—George A. Gallant, Jr., YN3, USN.

• **Our expert on wind** (a fellow who was once told to go fly a kite—and did) says your explanation sounds quite logical to him. The rest of us aren't so sure.

Does anyone else think he has a better theory?—ED.

Orders to Helmsman

SIR: On small ships I find some deviations in what I feel should be standard commands or standard procedures. For the record, please straighten me out on these items:

On a single-propeller ship, should the command from the conning officer be, "All engines ahead standard"—or may the "All engines" be omitted?

In giving the command for maximum rudder, should the command be, "Hard right rudder"—or is "Right hard rudder" correct?

On a diesel-driven ship, should the smooth log entry be, "Underway as before"—or "Steaming as before?"—W. D. C., CHMACH, USN.

• **Your first question is answered** on page 127 of the Navy Training Publication, Seamanship, NatPers 16118-B, which states:

"Contrary to the custom when giving orders to a helmsman, the words 'port' and 'starboard' are used when orders are given to the man operating an engine order telegraph on a twin-screw vessel. They are superfluous, of course, on a single-screw ship. On a single-screw ship, each order is so worded that the desired propeller direction is stated first and the desired speed next:



JOINING UP—The National Ensign is raised at stern of the new guided missile frigate USS Preble (DLG 15) during ship's commissioning services.


'Back-two-thirds,' 'Ahead-full.'"

Page 126 of the same publication and page 144 of The Watch Officers Guide, Eighth Edition, cover your second query. Both of them agree that the command for maximum rudder should be, "Hard right (or left) rudder."

As for your third question, either "Underway as before," or "Steaming as before" is considered correct. The main purpose of this entry is to imply that the ship is in motion and under its own power.—ED.



FOR REAL—Crew members of USS Canberra (CAG 2) meet a live kangaroo like the one that is on their ship's crest while they visit Sydney, Australia.



12,000 LEAGUES UNDER THE SEA

On 10 May, as the most recent in a series of exploits of USN nuclear submarines, USS Triton, SSR(N) 586 surfaced off the coast of Delaware after a journey of approximately 36,000 miles of submerged travel around the world. She had submerged 84 days earlier, on 16 February.

Not only was this venture of profound significance, it was interesting. Because they make some of the finest reading we have encountered in some time, ALL HANDS quotes at considerable length extracts from Triton's log, as written by her skipper, CAPT Edward L. Beach, USN.

Tuesday, 16 February 1960

1416—Underway from New London in accordance with COMSUBLANT OpOrd 5-60, proceeding surfaced until clear of Block Island Sound.

1543—With Long Island abeam to starboard, entered International waters. Set course due south. In this area the Continental Shelf runs far out to sea and deepens very gradually. Our fathometer registers about 30 feet of water under the keel as we cross Endeavor Shoals bar.

1737—With sounding increasing to 30 fathoms, dived. Continuing on course 180 degrees to clear submarine operating areas. We will be coming to periscope depth occasionally, but we shall not surface until May. Our running depth gradually increases as the ocean bottom slowly drops away.

2240—Changed course to 134 degrees T, on the first leg of our voyage. We will follow this course for 3250 miles to St. Peter and St. Paul Rocks, a lonely spot a few miles north of the equator, lying off the bulge of Brazil. The Rocks will mark the beginning and completion of our circumnavigation of the world; but while

we're at it, we intend to make the entire voyage in the submerged condition.

Wednesday, 17 February

0540—Periscope depth for morning star sights and to ventilate the ship. Our No. 1 periscope features a device by which observations of celestial bodies can be made nearly as accurately as with the time-honored sextant. Until recent years submarines navigated in exactly the same way as any other ship, by using a navigator's sextant during periods when on the surface.

Coming to periscope depth takes time, for one must first listen cautiously at slow speed. The entire procedure of slowing, listening, then coming up and staying at periscope depth to navigate and for other purposes takes a lot of time. We make good use of it, of course, by raising our air induction mast and pumping in good fresh air (thus conserving our precious oxygen supply), setting a radio watch for news and messages, pumping out garbage through our garbage ejector, blowing overboard human waste and wash water from our sanitary tanks, and in general carrying out all functions more easily accomplished while at slow speed or shallow depth.

With the high SOA (Speed of Advance) required to complete our trip within the time allotted, every minute spent at a reduced speed requires many times that minute for recovery of the distance thus lost. One of our objectives is to determine which are the limiting factors for *Triton* and to minimize their effect as far as possible.

Two things now under development will help greatly in the future and are now almost operationally ready:

A really effective oxygen generating system—which no submarine has as yet and on which major research effort is being expended—and a means of determining position by instruments, without celestial observations of any kind. Deep in *Triton's* belly we carry a complicated machine on which research has been conducted for years.

Called "Ship Inertial Navigation System," SINS for short, it measures earth rotation and other undetectable forces by means of extraordinarily precise gyroscopes; and from these measurements automatically calculates our latitude and longitude. Similar computers, taken from discontinued ballistic missiles helped guide *Nautilus* and *Skate* on their polar explorations.

Our SINS is the first production model for ship navigation. Another of our missions is to give it a thorough check-out on a long sea voyage. With SINS aboard, the only reason for observing heavenly bodies will be to run an occasional check to see how it is behaving, and to keep one of the unique arts of the sailor alive. Even so, I venture the prediction that this device will one day spell the end of that time-honored professional—the Navigator of the Ocean Sea.

0640—On securing ventilation, the inboard induction valve would not close. Both the hydraulic outboard valve and the electric head valve had shut properly, however, and, the ship being tight, we went on down anyway. A check of the pipe through a removable inspection plate rewarded us with a smashed and rusted flashlight which had lodged across the induction valve seat, a legacy from some careless workman.

Thursday, 18 Feb 1960

1345—Exercised the crew at general drills. Our routine for the trip will be to exercise daily at one or more



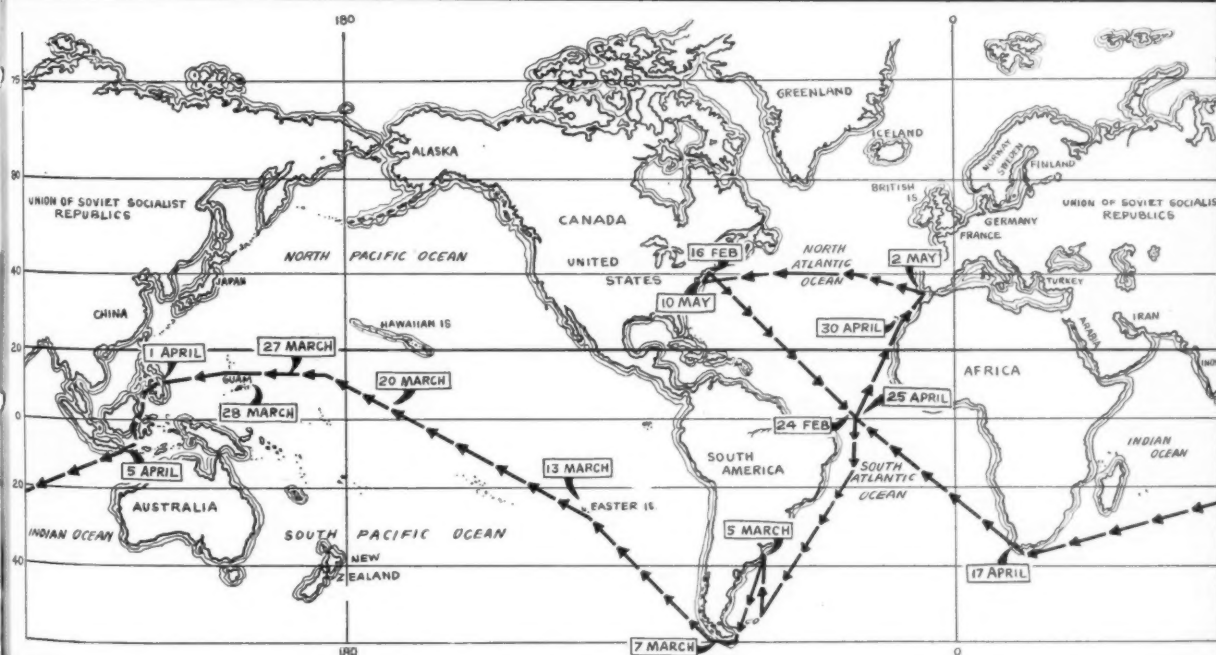
UNDERSEA PLOT—*Triton's* skipper Capt. E. I. Beach, plots course with sub's executive and operations officer.

of the many drills which we, like all naval vessels, must have letter-perfect.

1649—Dispatch from COMSUBLANT informs us that Richard W. Steeley, EN3, is the father of a baby girl. First babygram of the trip—mother and baby doing well.

0235—The fix just computed shows us to have fallen behind our PIM (Position of Intended Movement). In preparation for the voyage, a detailed track chart with our exact routing and times to pass through each point has been left with COMSUBLANT, so that at all times he will know exactly where we are. The somewhat reduced speed necessary for recent repairs has caused us to fall farther behind than seems proper, and it is obvi-

WORLDLY CHART—Undersea route of *USS Triton*, SSR(N) 586, shown here is course Magellan sailed topside, 1519.



ously time we drew upon some of *Triton's* tremendous reserve. With speed increased to flank, our submarine cruiser begins to tear through the water at a speed few ships can match on the surface. And yet, there is no sensation of speed at all.

1300—Released our first hydrographic bottle. This appears to be a good time to start one of the projects of the cruise, which is to release a bright orange-colored bottle once or twice a day, containing a printed Hydrographic Office form requesting the finder, in several languages, to note the time and place found in the blanks provided and forward the paper to the nearest U.S. Government authority.

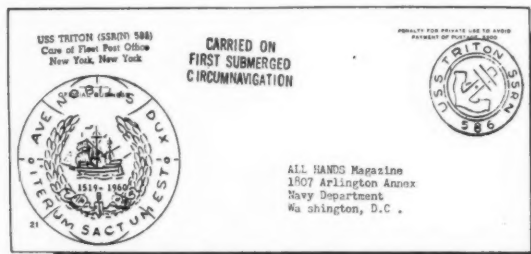
Putting a sealed bottle into the water has turned out to be no problem at all. A standard medical bottle answers the purpose admirably, fitting easily into our submerged signal ejector. It is apparently impervious to maximum submergence pressure and floats neatly out on its own buoyancy when the cap of the ejector is lifted.

Saturday, 20 Feb 1960

0336—Periscope depth for celestial observations, to listen on the radio for any possible message, to ventilate the ship, and to tune around for a news broadcast. This will be our procedure once a night, for approximately one hour. We carry a large supply of stored oxygen and have the latest equipment to remove waste products from the atmosphere inside the ship. All nuclear submarines are fitted with a ventilation tube, identical in nearly every respect to a snorkel pipe except as to size, by which outside air can be drawn in and used air can, in effect, be exhaled. We intend to ventilate as necessary during the first part of the cruise and carry out an extensive "sealed ship" test toward its conclusion.

Monday, 22 Feb 1960

0034—Garbage ejector out of commission with a jammed outer door. This gadget is a large potential hazard because of the frequency of its use and lack of experience on the part of the individuals customarily



handling trash and garbage. But getting rid of garbage is an extremely important morale and health measure. Like all submarines, we insure against mal-operation of the ejector by having a qualified auxiliaryman actually operate the mechanism.

If we cannot clear the jam we may be without ours for the remainder of the trip, and one is reminded of stories of submarines during WW I and even in WW II which brought the entire noisome mess back home. Fortunately, we have an empty torpedo tube to eject from, if we have to.

0126—Ejector door is shut, jam cleared. At least, we now have both muzzle and breech doors between us and the Ocean and can resume normal cruising depth.

Tuesday, 23 Feb 1960

During early morning, sudden and very rapid shoaling was recorded on the Precision Depth Recorder. Normal soundings have been more than 200 fathoms in this area. For fear the shoal might reach a depth dangerous to us, the Officer of the Deck immediately slowed to creeping speed. We passed very slowly over the area, recording a minimum sounding of 930 fathoms, then executed a Williamson turn in order to retrace our track and passed again over the spot on the reverse course. Sounding, 1011 fathoms. Passing over it again on a southerly heading, the reading was 1061 fathoms. The profile of this sea mount shows nearly precipitous sides. Its height above the ocean floor is nearly 9000 feet.

Wednesday, 24 Feb 1960

Today we expect to make our first landfall. This also will be the spot to which we shall return upon completion of our circumnavigation of the globe. Though the *Sailing Directions* describe St. Peter and St. Paul Rocks as bare and useless, interest has run high anyway.

0404—Periscope depth for morning stars to insure our position—no luck—completely overcast.

1136—St. Peter and St. Paul Rocks should be about 10 miles ahead. Periscope depth for search.

1203—Radar contact 136 degrees T, 21,600 yards.

1206—Rocks in sight bearing 134 degrees T. For "The Rocks" to show up so precisely on schedule and so precisely as predicted is a feather in the Navigator's cap. Everyone on board shares in appreciation of an unusually precise navigational accomplishment under sub-average conditions.

1243—St. Paul Rocks is merely a spot where the Atlantic Ridge happens to come above the surface in the form of a group of jagged peaks. This sub-surface ridge runs generally north and south and is the source of most of the shallow spots or "sea-mounts" in the Atlantic basin.

The day is quite calm. There is not much of a swell visible, but breakers and heavy surf foam among the jagged rocks. The whole islet, but a few hundred feet long, can with a little imagination be made to resemble a damaged ship laboriously proceeding at slow speed.

1605—Photo reconnaissance completed. En route Cape Horn.

2004—*Triton* crosses the equator for the first time.

25 February—1 March

The psychologist assigned for the voyage from the Medical Research Laboratory, Dr. Benjamin Weybrew, is supposed to test our over-all reactions during the entire period of the trip. He has already assembled a group of volunteer guinea pigs and is commencing to chart such things as sleeping hours, smoking and coffee-drinking habits, general feeling of lassitude and the like. After he has studied the results and compared them with similar investigations conducted in Operation Hideout and in *Seawolf*, as well as elsewhere, he hopes to make a contribution toward solution of the problems to be faced by *Polaris* missile submarines in a succession of similar long submergences. This data is also expected to provide basic information for future space travel.

Morale is high as we enter into our run for Cape Horn, but at the same time an appreciation of the extent of the trip we are embarking upon has commenced to sink home. It was our Crossing the Line

ceremony which unexpectedly put this into focus. During a previous such observation (in USS *Trigger* in 1952), I had prohibited unusual haircuts by the Royal Barbers for the reason that we would shortly arrive in Rio de Janeiro where, I felt, strange hair styles might reduce the pleasure of our few days' visit. In *Triton*, on this crossing, the circumstances were different. "This time," I announced, when Chief Loyd L. Garlock, who has a long memory, brought up the subject; "there'll be plenty of time for hair to grow back to normal. Have at it!" All over the ship, the short bristles standing in dead white skin, where but lately had been a handsome head of hair, constitute an instantaneous measure of the duration of our undertaking.

It is our "shakedown cruise," of course, in addition to all the rest, and the Executive Officer has evolved a daily program of drills and instruction lasting from 1300 to 1600. This, added to eight hours of watch per day and necessary division work, makes for better than a 12-hour working day. We have, however, neither reveille nor taps. Despite their latter day size, submarines are still so crammed full of equipment that a man not on watch is less bother (and more comfortable) in his bunk than up and about—and more people asleep means less oxygen consumed, less food eaten, more room for watchstanders and men repairing or working on equipment.

A number of men, as a matter of fact, skip meals by sleeping through them. To have all hands ready for the daily drill period, we need some kind of reveille, though it is carefully not referred to by this name. Therefore, we make it our custom to test all our alarm signals—the general alarm, the diving alarm, the collision alarm—every day at 1245, just prior to the beginning of the day's schedule of drills and lectures. It is an effective alarm clock.

A large number of "course books" for study leading to examination for advancement in rating have also been brought aboard, and it is gratifying to see well worn copies appear in the hands of ambitious sailors. As a matter of fact, just before departing on the cruise, a number of candidates from *Triton* were given promotion examinations in a Navy-wide competition. The results, however, won't be forthcoming for sometime.

There is a series of evolutions relating to the ship's own operational development which, because of her newness, we shall have to perform. We must know, for instance, for how many minutes we must suck air through our ventilation pipe in order completely, to change the atmosphere of the ship. And we have to know how long we can go before we need to do it again. Simultaneously with ventilating we can carry out numerous other processes, such as taking celestial observations through the periscopes, sending or receiving radio messages, ejecting the hydrographic bottles, blowing sanitary tanks and the like.

Some of these evolutions can be carried out below periscope depth, sometimes at greater cost of a valuable commodity such as high pressure air. High pressure air itself must be conserved, and another of our problems is to see how well we can manage it. As *Seawolf* found during her long submergence, one cannot afford to expel it from the ship. If it must be used, it should be released within the ship after use and recharged back into the air banks via the air compressors.

Our weekly routine is as follows:



HOME PLATE—Saint Peter and Saint Paul Rocks between Africa and S. America marked cruise's start and finish.

Monday and Tuesday are regular days, with drills, lectures, school of the ship and classes during the noon to 1600 watch.

Wednesday is a "Rope Yarn Sunday"—traditional surcease from drills while at sea. During the sailing days this was the opportunity, if weather was good, to get up one's kit for mending or washing, generally to do odd jobs of one's own volition, or just to relax in the sun.

Thursday is a regular drill day. Friday is "Field Day," and is the only day when reveille is held in the morning. After Field Day there is a formal inspection by the Commanding Officer. If you had the four to eight watch in the morning, you also have the 16 to 20 watch that same evening with Field Day and Inspection in between. This makes a long day; but every two weeks we equalize things by shifting the watches.

Saturday is a regular work day with drills in the afternoon. As much as possible Sunday is observed as a day of rest, the only scheduled activities being Church and normal watches.

1 March 1960

J. R. Poole, RMC, has been having excruciating abdominal pains for several hours and it is the conviction of CDR Jim Stark, MC, USN, that he has a kidney stone. Apparently Poole had been suffering a milder ache for several days and had not reported it, hoping it would go away. This has not been the case, and he is now in serious pain.

Poole may have had an unsuspected kidney stone for some time and never known it; but once it starts to pass it must either pass all the way through or else serious complications will result. The passage of the stone is usually accompanied by severe pains of exactly the type Poole is experiencing now, and the only thing to do is to ease his discomfort as much as possible, and wait.

In the meantime I am faced with the problem of what to do if the stone does not pass through. The equipment required is standard in any hospital but we do not

have it on board ship. Where can we take Poole if he needs more attention than Jim Stark is equipped to give? And—will we have to surface to get him there? Will our submerged record be ruined on this account?

1015—Troubles come in pairs. Our fathometer, a sonic depth finder, which has been operating continuously since departure from the States, is suddenly out of commission. This equipment, perfected many years ago by our Navy, has been so dependable for so long as to be taken almost for granted by all ships. Our normal practice in making a transit (except when attempting to avoid sonar detection) is to take and record a sounding every 15 minutes. For this particular cruise a precision depth recorder, or "PDR," has been installed which takes a sounding approximately 30 times a minute and records the same on a piece of specially prepared paper, thus producing a continuous record of the bottom profile along our course-line. It is the PDR which found the previously uncharted sea mounts along our track. Now, however, the fathometer is out of commission and my anxiety about Poole is compounded by worry over it.

Fortunately at the present time we are in an area where the water is deeper than normal for the Atlantic. But we will want that fathometer badly as we approach Cape Horn. It is also apparent that submarines need fathometers more than other ships. The biggest surface ship will rarely worry much about water known to be deeper than 100 feet; but our modern deep diving submarine ships need many times that much.

1510—Progress report on Poole indicates no improvement yet. The trouble with the fathometer, however, has been localized as a transformer and two crystals blown in the receiver, most probably because of insufficient cooling.

1915—We have been running in gradually shoaling water all day long, searching ahead and both bows with our echo ranging sonar, due partially to our anxiety regarding the fathometer and partially to unfamiliarity with effects to be expected. A great number of possible

BETWEEN WATCHES *Triton* crew member enjoys snack as others relax at chess while under the Pacific Ocean.



contacts upon close investigation are evaluated as schools of fish, temperature anomalies in the water, or possible pinnacles well below our actual depth. In the meantime, what had started out as a rather quick replacement of parts has become a lengthy repair. The water has commenced to shoal rapidly according to the chart and navigational worries are commencing to assume greater proportions when compared to medical or nuclear worries than they had a few hours ago. At this time good news is reported. Our fathometer is at last back in commission. It may be lacking a little in power because of the deterioration of the transducer, but it works very well. The precision depth recorder also is back in commission and we lay on a rigorous program, it is probably needless to say, to watch both carefully from now on.

2 March 1960

0232—Possible submarine contact. We are in fact within about 300 miles of Golfo Nuevo, where the press has recently reported unknown submarines under attack by the Argentine Navy. In their present state of mind the last thing we want to do is to make contact with a vessel of the Argentine Navy. Even though *Triton* would most likely be able to show them her heels, the repercussions could not fail to create public notice. But, of course, there is always the possibility that this is indeed a submarine contact. Maybe the Argentines had something; we decide to investigate.

0235—Slowed and reversed course to investigate the contact. It looks pretty real.

0258—Periscope depth for further investigation. So far as we can tell, this is not a surface ship; and our contact definitely has movement. It is not on the bottom. As we slowly and cautiously draw closer, however, it commences to fade and change shape. Final evaluation; a close pack of fish moving around and feeding, and probably wishing this huge intruder would leave them alone.

0420—Another large school of fish. Classification is easier this time. It looks just like the last.

2230—Second "babygram"—James John DeGange, EMC, had a 7-pound girl on 1 March. Both well.

3 March 1960

At this point Jim Stark reappears, his recent good cheer notably absent. Poole has suffered a third and by far the most violent attack of the entire series. In this instance, in Jim's opinion, there is no telling how long this will continue and to what condition he will ultimately be reduced. Nobody wants to turn back. Poole himself begs that we go on, says he is sure that this will be the last time. Everyone in the ship seems to be staring at me.

It isn't as though I have not had plenty of opportunity to think the situation over. We certainly cannot go on like this. It is my duty to get our shipmate to a place where he can receive X-rays and special studies, and as soon as possible. We dare not go farther. Since we were informed by dispatch several days ago that USS *Macon* (CA 132) was in Montevideo Harbor, I made the decision to go in there.

The decision made, it is simply done. I pick up the telephone, call the officer of the deck, order him to change course to head for Montevideo Harbor, increase speed to maximum.

1248—Periscope depth to transmit our message re-

questing assistance from *Macon*. There is just one way in which there may be a reasonable possibility of not aborting our unprecedented submerged voyage, and it is really entirely out of our hands. After a terse statement of the situation, we simply announce that we are heading at maximum speed to a point off Montevideo where we will arrive about midnight on the night of the 4th of March. "Can the *Macon* meet us there, receive Poole, and take him to where he can get the help he needs?" is the plea we compress into brief naval phraseology. In the meantime, Poole is having an extremely bad time. J. M. Meaders, HM1, is perched on a ladder alongside his high bunk on watch over him. There is no sick bay in *Triton*, but here is one thing I can do for Poole. There is one place in the ship where a sick man can have room for an attendant and equipment, not to mention being out of the gaze of his worried shipmates. Everyone feels better after we move him into my bunk. And now that he has the space to lay it out, Jim moves in oxygen gear and covers the desk with medical gadgetry of all kinds.

Since turning back, except for the time spent transmitting our call for help, *Triton* has been racing northward, deep beneath the sea, at the maximum speed that her two propellers can drive her. There is no noticeable motion in the ship, not even vibration. All we note is a slight drumming of the superstructure from her swift passage through the water. Forward she is as steady as a church, as solid, and as quiet.

2300—Periscope depth. Maybe there will be a message for us—there could be, though it is probably too soon.

2325—There is, indeed, a message for us from Admiral Daspit. Admiral Stephan is getting underway in *Macon* and will meet us at the time and place we have requested.

The news is immediately announced to the entire ship and at the same time we can now announce how we shall handle the rendezvous and transfer. We will not surface, at least, not fully. With Poole and the "topside party" in the conning tower, we will seal it off from the rest of the ship by dogging down the lower hatch. Then we'll 'broach', that is to say, get the upper part of our sail out of water high enough to open the upper conning tower hatch. The broached condition will in fact make the transfer easier, since we'll not be so high above *Macon's* boat. Poole will be all ready, all necessary papers strapped to his belt, and once he's in the boat we'll simply ease back down and be on our way.

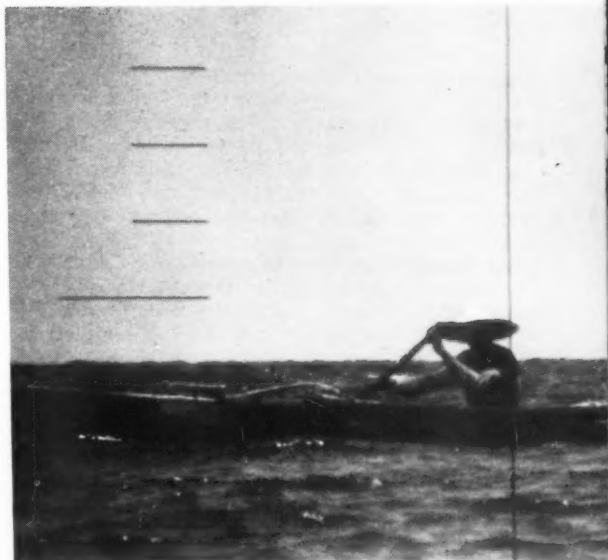
4 March 1960

Flank speed all day. One can almost become lyrical thinking of the tremendous drive of the dual power plant of this grand ship. Except in calm water, there are probably not more than a few dozen ships in the world which can go as fast as we are right now, and we are doing it deep beneath the surface where they can't go. LT Curt Shellman, Main Propulsion Officer, reports with delight that the engines seem to be running smoother and quieter at flank speed than they were at our normal cruising speed, in itself pretty fast.

5 March 1960

Our rendezvous with *Macon* is for 2 A.M. At 0100 we slowed and came to periscope depth. *Macon* is out there waiting for us.

The rendezvous is perfect. She is heading south, we north, and the two ships meet at the designated position.



PEEK-A-BOO—USS *Triton* comes up to periscope depth in Magellan Bay in Philippines. Native looks startled.

0245—Approximately in position for the transfer.

0250—Broached on safety tank. Ships' draft reduces to 40 feet, indicating that the top of the conning tower is five feet out of water. All hands are ready; the lower conning tower hatch is shut. I hastily don a jacket and a cap and then direct Curtis K. Beacham, QM1 (SS), to crack open the conning tower upper hatch very cautiously in case there is an inch or two of water above it—which indeed there is. A small cascade pours down through the barely opened hatch, and we jam it shut again. This is remedied by a short blast of high pressure air into our most forward tank, thus lifting the bow a foot or two above the swells and giving a better drainage angle to the bridge.

A second time I direct Beacham to open the hatch, and this time no water comes in. We are out of water. He holds it at a quarter-inch opening for a minute or two to be sure that water is not sweeping over it. None does. We are definitely out. "Open the hatch!" I tell him. He flips it open, jumps out. I am right behind him. As I swing up the ladder to the bridge one deck above, by pre-arrangement Beacham jumps below again and slams the hatch nearly closed, ready to shut it instantly the rest of the way should it swamp.

It is a bit of a lonely feeling to be the only man topside in an 8000-ton ship which is 99 per cent under water. We have been very careful with our computations, but there's always the possibility that some miscalculation somewhere, or a sudden change in water density, might send the whole thing back down again. There is however not much time to dwell upon this, and besides there's very little chance it will happen.

The boat is alongside, bow painter around the cleat and held by Wilmot Jones. Two men in the boat hold her off from our side with reversed boat hooks. Chief Fitzjarrald and Sawyer steady Poole and a couple of the men in the boat standby to catch him. Seizing a moment when the gunwale of the boat is level with the edge of deck, Poole steps easily and quickly into it. It is a stand-

12,000 LEAGUES UNDER THE SEA

ard Navy motor-whaleboat, evidently *Macon's* lifeboat, manned with a crew of about 5 people. It is a pleasure to watch the boat's coxswain maneuver his frail craft alongside. There is no doubt that he knows his business. Poole hasn't even got wet, and the boat's gunwale has only once touched our side.

In a moment the riding line is cast off. The men with boat hooks push hard, the coxswain guns the engine, and they are away. Another moment suffices to get George and company back on the lower bridge. Then they are below, hatch shut behind them.

We sent a final message of thanks and then, with topside clear and hatch shut, I order Dick Harris, Diving Officer of the Watch, to return to periscope depth. The air bubble in our tanks is released, and gently *Triton* eases her sail into the warm sea. The total time with the bridge above water has been less than an hour. We shape our course at maximum speed southward.

Now that we have successfully solved the difficult problem about Poole, the atmosphere in our ship lightens considerably. With everything wide open, *Triton* is again heading for Cape Horn. This time we will pass to the west of the Falkland Islands and head for Estrecho de LeMaire, a small strait between Staten Island (familiar name) and the main part of Tierra del Fuego. We calculate that we will have gone 2000 miles out of our way on this mercy mission, and it has cost several days. The distance is almost equal to an Atlantic transit.

7 March 1960

0440—Approaching Estrecho De LeMaire. Periscope depth.

0446—Sighted LeMaire light bearing 185 degrees T, right on schedule. After obtaining a visual and radar fix on land, went deep and completed passage through the strait at deep depth.

0934—Exited from Estrecho de LeMaire, changed course to 244 degrees T to head for Cape Horn.

1149—Periscope depth. Sighted Cape Horn, bearing 249 degrees T.

1200—Noon posit—55 degrees—48 seconds South, 66 degrees—33 seconds West. Approaching Cape Horn.

1408—Upon reaching longitude 67 degrees west we have officially passed from the Atlantic to the Pacific Ocean and from the control of COMSUBLANT to COMSUBPAC. We will, at last, carry out the photo reconnaissance practice which had been denied us at the Falkland Islands. Our photographers on photo reconnaissance party, LT Harris and W. R. Hadley, CTC, are on the job and complete their assignment in good order. Photos of this famous Cape will shortly be posted.

Any sailor rounding Cape Horn must, if possible get a look at it. This was considered bad luck in the days of sail, when the sight of Cape Horn was usually the result of either bad navigation or bad weather conditions and generally portended a serious accident. But deliberately sighting the Cape is a privilege. It has consequently been directed that all men aboard one by one, file up into the conning tower and take a look at this Cape which has figured so in the history of our country. With Joe Roberts and his cameras also present in the conning tower it can be appreciated that there was at times a rather heavy traffic load in that tiny space.

Our observations of the conditions make it quite clear why it was such a tremendously difficult thing for old-time seafarers to weather this famous Cape. In the

first place, though we are safely submerged and comfortable, *Triton* is rolling rather heavily. There is an unusually rough sea topside. LT James C. Hay, recently reported aboard from West Milton, has already established himself as a most competent diving officer—but he is having difficulty in maintaining ordered depth today. Good practice for young officers—and planesmen too. We estimate the waves as 10 to 12 feet high and the wind about 25 knots from the west.

1705—We have had to go by the Cape twice in order to permit everyone to get a look at it. Technically speaking we have crossed from the Atlantic to the Pacific, back to the Atlantic, and then back to the Pacific. Now we set forth on the next leg of our journey. Our next stop is Easter Island. Magellan passed by just over the horizon and failed to see it. We have selected it, however, because it is on our track, and because it is about the only point of interest in the immediate vicinity. From Cape Horn to Easter Island is 2500 miles.

8 March 1960

1111—Passed over a sea mount registering minimum depth 350 fathoms. Total height of sea mount 7000 feet above the ocean floor. The Pacific seems to have fewer of these than the Atlantic, probably because there is no sharply discernible mid-Pacific ridge corresponding to the mid-Atlantic ridge.

1325—For the drill today, emergency shutdown of both reactors and loss of all power was simulated. In reality this double casualty is most unlikely; nevertheless it is one we should practice. The drill went very well, and we carried out the procedures laid down in the instructions on operation of nuclear reactors.

Sunday, 20 March 1960

0805—Another submerged ridge, dead ahead. Instead of changing course to go around as has been our practice to date, this time we watch carefully as *Triton* approached the submerged ridge and noted all indications confirming its existence. Minimum depth was estimated at about 500 fathoms; and at the appropriate time as we approached and passed over it, indication was received on the gravity meter.

1800—We are now at our closest point of approach to Pearl Harbor. In honor of the occasion a ship's party has been planned for this moment. Bob Fisher's commissary department, led by First Class Cook William ("Jim," naturally) Crow, has really outdone itself in preparing the traditional fixings for a fancy Hawaiian luau. Even poi makes its appearance (largely due to the efforts of the Executive Officer who, having recently left command of USS *Pickrel* (SS 524) at Pearl Harbor, feels that no luau can possibly be complete without poi. Why he feels this way I will never know, because poi to me is so much paste with neither taste nor consistency; but as has been said upon other occasions, there is not always need for a reason. If tradition demands that we shall have poi at a luau, we shall have it. Besides, Adams made it himself).

Many aloha shirts are in evidence, and a number of beachcomber outfits. Several of the crew have either found or in some manner manufactured straw hats, and despite the crowded conditions existing just before we shoved off from New London, to my amazement a king-size guitar and a set of bongo drums suddenly appear. One or two hula dancers also have showed up,

but somehow, it seems, our party goers would rather have their illusions than face the reality (that is the hairy-legged hula dancers which are the only ones we can provide).

Monday, 21 March 1960

Shortly after midnight, as we came to periscope depth for celestial observations, it was discovered that the sextant built into our new periscope has gone out of order. This will be a serious blow if we can't fix it, ameliorated only by the fact that running submerged as we are we find that our dead-reckoning is most phenomenally accurate. Rarely has our estimated position deviated from our actual observed position by more than a mile or two. It appears that currents and other forces affecting surface ships during transits are much less a factor during submerged runs. To paraphrase an aphorism, "deep waters run still."

0531—Periscope sextant is back in commission as the result of some rather inspired work by L. D. Garlock, FTCA (SS) and W. E. Constantine, FT1, (SS). Good news in one way: a double baby-gram; an eight-pound seven-ounce girl for Leonard F. Lehman, EM1, and a six-pound girl for Richard Brown, also EM1. Birthdates respectively 15th and 18th. Our ship's unofficial cartoonist, Seaman Jim Smith, has drawn up special "Baby gram" forms, in two versions. "Mother's copy" has cupids and hearts, but Father's copy shows nothing but a bunch of pot-bellied old men. Fathers are given both copies, but they are honor-bound to give the one with the cupids to their wives.

Sunday, 27 March 1960

We will soon be passing through our nearest point of approach to the presumed location at which the first USS *Triton* (SS 201) was lost in action during World War II. As a matter of interest, this took place almost exactly 17 years ago, and by a strange coincidence, the first *Triton* departed on her last patrol from Brisbane, Australia, on the same day (16 February) as we, her namesake, departed from New London on this voyage. *Triton I* is presumed to have been lost as a result of depth charge attack by three Japanese destroyers on 15 Mar 1943, in a position almost exactly 800 miles due south of where we are now.

LT McDonald and I decided that a version of the

committal service would be most appropriate, although we could find no reference or description of exactly what we wanted. Improvisation is the order of the day in submarines at sea anyway.

The services were announced at 1340, with directions that all hands not on watch assemble in the crew's mess, the air control center or the officers wardroom. At 1345 the services were broadcast throughout the ship, begun by rendition of tattoo. This was followed by the national anthem and a scripture reading from Psalms 107. Following the scripture reading a short prayer similar to the committal service was read, followed by reading of the tribute, which could hardly be called a eulogy but which was an attempt to put the significance of the occasion into words for our own better inspiration and understanding: The sacrifice made by the first *Triton* and all of those who follow in their footsteps.

Rendering of proper honors gave considerable occasion for thought, and it finally was decided that the only salute a submarine can fire is actually the most appropriate one anyway. Upon command, *Triton's* course was changed to due south and the officer of the deck was directed to stop all engines. The entire ship's company, was then brought to attention by order of the officer of the deck, all directed to face forward. This was, of course, possible even at their regular watch stations, then, with the entire crew silently at attention, the forward torpedo tubes were fired three times in rapid succession.

We could hear the resounding echo of the water ram and feel the fluctuation of air pressure on our ear drums. Three times the harsh war-like note traveled through the ship; and as the last air fluctuation died away, the clear notes of Taps sounded in the distance.

During the approach to Guam, we have remained at periscope depth and have observed considerable activity on shore. Several aircraft are landing or taking off and a helicopter can be seen hovering over the airfield. We can see the planes being hauled in and out of the hangar and we can see people walking on the roads, cars driving back and forth, and other signs of activity. There is one housing area which is very clear indeed on top of a near hill with slope toward sea. We can see the green grass plots, and brown areas where walkways and driveways have been carved out. The houses



WORLD CRUISER—USS *Triton* SSR(6) 586, tests out her two reactors on cruise before taking underseas journey.

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are white or creamed stucco, surrounded in most cases by flowers and shrubs.

Today is a big day, too, for Edward S. Carbullido, SD2(SS), USN. Carbullido was born on Guam and has youthful memories of the period of Japanese occupation during the war. Later, when old enough, he enlisted in the U. S. Navy and has been in the Navy for 14 years during which he has never returned to his home island. Today is, in fact, the closest he has ever been. We wish it were possible to let him go ashore for a few days, and we shall do as much as we can for him.

We spread a map of Guam on the wardroom table and require of Carbullido that he pinpoint, as accurately as he can, exactly the spot where his parents' house is. After we have carried out our scheduled drill photographing the island of Guam, we shall spend a few hours giving Carbullido the best possible look we can through the periscope at his home town. This seems to suit everyone.

It is touching to see the intense eagerness with which Carbullido peers through the periscope, looking for the house he has helped so much to buy but has never seen. With a big grin, he announces that Agat is very different from the way he remembered it. "Many more people," he says, "Many more houses." It is indeed, an attractive modern-looking town. As we draw closer, we insist upon Carbullido identifying his father's house, which he feels he can do from the descriptions and pictures he has received by mail. Finally, with a wide smile, he has it spotted, and we all eagerly take turns to look it over. Even with the periscope at high power and the ship as close to shore as we can bring her, the house Carbullido has selected is only a tiny spot in the

SEVEN SEAS SAMPLES—Water from seas and oceans in which USS *Triton* cruised was collected in bottles.



distance. It is situated as he had described it, on a fairly high piece of ground, near the water but high enough to be free of any danger of flooding.

1630—We have been in Agat Bay an hour and 10 minutes; it is time to go. Regretfully I tell Carbullido that we must put the periscope down and get underway for the Philippine Islands.

So far, at every landfall we have made, there has always been a number of men wanting to come up for a look; off Cape Horn and Easter Island there had been a determined effort to get as many people as possible to the periscopes so that they could say that they had seen them. In this instance, not a soul has asked for permission to come up and take any of Carbullido's periscope time; and if he had been the Captain of the ship himself, he could not have received more attention or assistance from the quartermasters with regard to focusing the periscope, aiming it in the right direction, setting his bearings, etc.

2155—While at periscope depth, having just finished ventilating and making celestial observations, detected an aircraft bearing 064 T, flashing red and green lights and apparently closing, since his bearing is steady. Went deep immediately to avoid detection.

Tuesday, 29 March 1960

1943—Coming to periscope depth for routine night evolutions including ventilating and celestial observations.

1946—Aircraft contact bearing 070 T. Flashing red and green lights. Two nights in succession; maybe we have been detected. Who could be so persistent? Has he figured out our routine? Only a submariner could do that—maybe COMSUBPAC, my ex-skipper, is playing games with us; or maybe the fliers in Guam have some extra gasoline to expend. Possibly they suspect a non-U. S. submarine.

1953—We are being very cautious with our periscopes, taking only short observations and spacing them fairly far apart, in case the plane has a hot radar. Again it is noted the bearing of the aircraft is approximately constant. A few observations and we realize the range does not seem to change. "Let's check the star charts," someone mutters, and all at once I feel like a fool. I run the periscope all the way up and leave it there. In a moment, sure enough, from Chief Quartermaster Marshall in the Chart Room below: "Arcturus bears 070 at this time of night and approximately the altitude we have sighted our aircraft." Furthermore Arcturus is known to have a red glow upon occasion. Our red and green lights are simply refraction through the spray and dampness on the lens at the top of the periscope—not at all an unusual occurrence. Undoubtedly, last night's "aircraft contact" was also our friend Arcturus.

Thursday, 31 March 1960

1307—Sonar contact in sight bearing 347 T—a moderate size freighter, single stack, two masts. This is an opportunity we have been looking for. We have been drilling our approach party but have not had a moving ship to actually work with. As a matter of fact even if we had, we could not have been able to play with any ship, until today, long enough to get much good out of the exercise. Now the situation is different.

1308—Manned tracking stations. We need not ap-

ALL HANDS

proach the target very closely, and we shall be particularly careful to give no indication that we are present. Submerged submarines are always the burdened vessel in such cases. They must never annoy other ships, and they must never forget that no one can identify the nationality of a periscope at sea.

1332—We have had an excellent drill. The ship has gone by at a good range, identified as a World War II Liberty ship in excellent condition. She is nicely painted with black hull, white stripe and white superstructure. No colors visible, and we were much too far to read the name. But she gave us a fine work-out; and we are much the better for it.

Monday, 11 April 1960

A message from COMSUBPAC relays information from COMSUBLANT announcing prospective promotion of Chief Petty Officers Bennett, Blair, Hampson, Hardman and Loveland to the rank of ensign, and of the following first-class petty officers to the rate of Chief Petty Officer: Hoke, Meaders, Lehman, Mather, Pion, Stott, Bloomingdale, Flasco, Fickel and Tambling. There is jubilation among the lucky advancement winners and good sportsmanship among the others. But this can't be the entire promotion list, since examinations were held before departure for all rates down to third class. More information should be forthcoming soon. Five ensigns and 10 chief petty officers is a tremendous haul for any single ship, particularly one with a crew of only 159.

The opportunity for hazing some of the lucky ones is too good to be missed. One by one they are called before me to be asked, in a grave voice, "What have you done to cause COMSUBLANT to send a message to us about your actions?" The look of incredulity on the faces of the first ones to arrive is real enough, but all ships have a sort of extra sensory communication among the crew, and I doubt if the last few were particularly perturbed by my feigned severity.

Friday, 15 April 1960

0000—Out goes the smoking lamp, eliciting many unfavorable comments by the smokers, a great air of superiority on the part of the non-smokers. All hands have been carefully briefed for some time as to the purpose of the test and how it is supposed to be run, but we have avoided giving any indication as to the intended length, stating only that the operation order prescribes it shall not exceed 10 days. Ben Weybrew tells me privately that it will not have to be nearly that long, but that he wishes to avoid any complications from anticipation of an early "relight."

In preparation for it LCDR Bob Fisher (SC), USN, (the only Supply Corps officer attached to and serving on board a submarine) has laid in a stock of candy and chewing gum. It is shortly discovered that some of the men had apparently also brought along a supply of chewing tobacco, which introduces an unforeseen variable into Jim Stark's and Ben Weybrew's test. Some of their volunteer subjects had neglected to mention their intentions to chew tobacco in place of smoking during this period. It was noted too that cigars are at a premium since they can be cut into short lengths and chewed also.

Saturday, 16 April 1960

The smoking lamp is still out and the psychological



MAGELLAN MEDAL—Special plaque to be placed on Magellan memorial in Cadiz, Spain, is given polishing.

reaction building up is surprising. Although I had not felt repressed by the atmosphere in any way previously, there is to me, a definite improvement. It feels cleaner, somehow better, and so do I. Will Adams agrees, being also a non-smoker, but nobody else does. Tom Thamm announces that the limits of human endurance had been reached in the first three hours, so far as the smokers of the ship were concerned, and the remaining time of the test is purely a sadistic torture invented by Weybrew and Stark.

So far as the no-smoking test is concerned, Weybrew and Stark contend that they have enough now to fulfill the requirement laid upon them by Medical Research Laboratory. It is also apparent, according to them, and I must confess having noticed something of the same myself; that the test has gone on just about long enough. Overt feelings of hostility are coming to the fore, expressed in a number of small ways, and there have been instances of increasing irritability. Deprived of a normal intake of mild stimulant there obviously have been withdrawal symptoms among the heavier smokers in the crew.

The point is that here in *Triton* the only reason for prohibiting smoking is for a test. Everyone knows it requires but one word, and the smoking lamp will be lighted. Were we in a dangerous situation where safety of the ship or life of personnel were involved, as for example in an explosive atmosphere, the entire situation would be different.

Monday, 18 April 1960

0000—Smoking lamp is relighted. Maybe I am a bit sadistic: no one was expecting it; so instead of directing that the word be passed to relight the smoking lamp, I strolled about the ship smoking a cigar, blowing smoke in the faces of various people inquiring in a pleasant conversational tone, "Don't you wish you could do this?" It took some 37 seconds for the word to get around.

1105—We are passing near a charted sea mount and



OFF-DUTY crew members relax in their bunks during the nuclear submarine's record 62-day cruise around world.

sure enough, the echo-ranging sonar detects it. We are becoming expert at this operation and it is a reassuring one.

Wednesday, 20 April 1960

0100—Crossed from east to west longitude. Today is my birthday and also, incidentally, LT Sawyer's. After dinner I repaired to my cabin to work this report.

2100—Chief of the Ship Fitzjarrald came knocking on my door saying "Something is wrong down in the Mess Hall, Captain; we need you down there right away." This is a strange message for the skipper of a ship to receive. "What's the matter, is there a fight?" I asked, starting up from my desk. It was only a jump down the ladder to the lower deck and forward one compartment into the crew's Mess Hall where I was greeted by popping flash bulbs, a raucous rendition of "Happy Birthday to You" and a tremendous birthday cake. The cake, prepared by Ramon D. Baney, CS2(SS), was about two feet square and two inches thick, with great extravagant gobs of frosting all over it. Ray Meadows, Joe Roberts and William R. Hadley were there too, of course, with cameras en echelon.

Saturday, 23 April 1960

Tonight we are advised by a message that 25 more of our ship's company have successfully passed the examinations for advancement in rate and are to be promoted soon. The news causes excited talk and waves

of mutual congratulations through the ship. Our statisticians are immediately busy and come up with the following rather remarkable set of figures; excluding the five CPOs who are designated for commissioned rank, but including the first class promoted to CPO and the 25 just named, a total of 60 per cent of our men who took the exam have made the next higher rate. Counting only those listed in tonight's dispatch, the percentage is 69 per cent; and if one adds in the five new ensigns, a total of 40 men or 25 per cent of a crew of 159 are to be promoted. Few ships in the U. S. Navy will equal this performance.

Sunday, 24 April 1960

0436—Completed sealed ship test, having run sealed for exactly two weeks. Remaining sealed is considerably less strenuous than ventilating once a day, and we are sorry to go back to the earlier routine. When you ventilate, you are attempting to conserve oxygen and at the same time trying to minimize time at periscope depth. It naturally develops that just before you ventilate the ship her internal atmosphere is at its lowest oxygen, its highest in carbon monoxide and carbon dioxide.

At this time cigarettes are difficult to light, a little exertion sets one to panting and generally one does not feel in the best of form. On the other hand, with the ship sealed you maintain a steady atmosphere and set your equipment to keep it that way.

We have learned a lot about *Triton* during two weeks of sealed ship operations and are extremely gratified with the results. Among other things, we have had no difficulty at all in retaining our precious air inside the ship. But it was a good thing that we recognized the problem, or we might have.

2001—Casualty in the after torpedo room. The manner in which this developed illustrates a point many naval officers are fond of making—there is no sudden alarm, no quick scurry of many people carrying out an expected drill. By the time anyone in authority even knew what had happened, the need for alarm was past. There was left only the correction of the trouble and cleanup of the mess, which took some time. What took place is instructive: The torpedoman on watch in the after torpedo room (Allen W. Steele, TM3(SS) who had only last night been notified of his prospective advancement to second class) heard a loud report, as he later described it nearly like an explosion, followed by a heavy spraying noise. Turning, he saw clouds of oil vapor issuing from beneath the deck plates on the starboard side. Realizing that this was trouble, Steele called the control room and reported a heavy hydraulic oil leak in the stern plane mechanism; then he plunged into the stream of oil hoping to find the leak and isolate it.

In the control room LCDR Bulmer had just relieved LT Rubb of the Conn, preparatory to bringing the ship to periscope depth. Rubb's first indication of trouble came when Raymond J. Comeau, EM2, at the stern plane controls, called out, "The stern planes are not working right, sir!" He had noticed a failure to respond to his control arm movement. At nearly the same moment, the report of a large hydraulic leak in the after torpedo room was received from Steele.

Whitey Rubb's action was the one for which we have

trained many times: "Shift to Emergency!" Comeau threw a single switch, tested controls and reported them satisfactory. This restored control of the ship, but it did not solve the basic difficulty.

In the after torpedo room, Steele determined the leak to be in the stern plane's normal power hydraulic system, and diagnosed it as a hydraulic failure. His third immediate decision was also a correct one. Diving into the midst of the high pressure spray he reached the two quick-closing valves to the supply and return pipes and shut them. One came shut easily but the other was very difficult to move. Desperately struggling with the valve, with assistance by Arlan F. Martin, EN3, who ran to his aid, Steele finally got it also shut. By this time, 15 to 30 seconds after the onset of the leak, the entire after part of the compartment was filled with oil vapor and visibility was reduced to only a few feet.

With the closing of the isolation valves, the oil flow stopped immediately. Steele's action was instantaneous and precisely correct.

Monday, 25 April 1960

0754—Crossed equator for the fourth and final time this cruise at longitude 28 degrees 03' West.

1200—Position 00 degrees 53' North, 29 degrees 01' West. We are within a few miles of St. Peter and St. Paul Rocks, at which point we will have completed

the first submerged circumnavigation of the world. It has taken us exactly 60 days by our reckoning, though as previously stated a person marooned here would have counted 61. But the number of hours would have been the same.

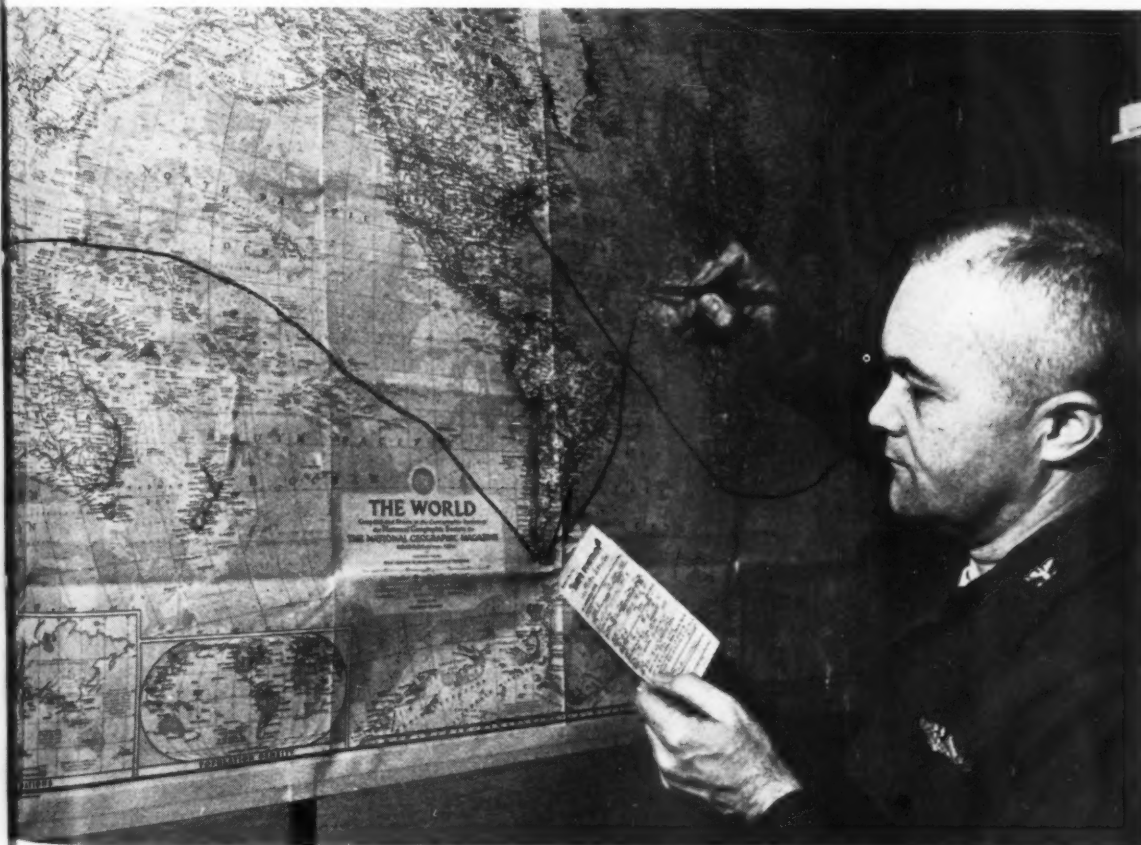
1330—St. Peter and St. Paul Rocks in sight, bearing due west.

1500—First submerged circumnavigation of the world is now complete. We are circling and photographing the islet again, as we did just two months ago. The weather is nice and the sun is shining brightly. Our mileage (Rock to Rock) is 26,723 nautical miles and it has taken us 60 days and 21 hours (days calculated as 24 hours each). Dividing gives an average over-all speed of just over 18 knots.

Tuesday, 10 May 1960

0430—Surfaced, having been submerged exactly 83 days and 10 hours (figured on 24-hour days), and travelled 36,014 miles. The rendezvous is still several hours hence, but we are now approaching the shallow water off the east coast of the United States, and *Triton's* voyage is over.

This account likewise will end where it should be ended—in a United States man-of-war cruising in the free ocean. Which is her natural habitat and which she and her sisters will ever defend.



TRITON'S TRAIL—Triton's skipper marks sub's course. Crossing lines mark completion of the submerged voyage.

JULY 1960

HERE'S A LITTLE GEM which we ran across in a recent issue of USS *Hornet's* ship's newspaper, "The Hornet Buzz." It's entitled "Now You Can Sail to Japan and the Orient for Less than It Costs to Vacation at Home." This is it:

"*Hornet* and U.S. Navy Lines are offering exciting vacations to Japan, Hong Kong and the Philippines next month.

"For example, a round trip to Manila starts next month. Two hundred and fifteen days of carefree cruising for less than you'd spend at a resort hotel.

"You step aboard your golden *Hornet* and U.S. Navy liner in Long Beach, Pier Echo, or Shipyard.

"In a few short days you're wriggling your toes in the warm sand at Waikiki. Fifteen days later you see Mount Fuji at sunrise as your ship glides into Yokohama Harbor. Japan is at her most beautiful, gay with spring flowers, festivals and typhoons. Your next stop is Hong Kong with its amazing shops where you can have a suit of fine British woolens tailored overnight for 40 dollars.

"The last port of call on your trip can be either Manila, Subic Bay or Guam, '(is good)'. The whole Orient trip takes only 29 weeks and you arrive home completely spoiled.

"The service on *Hornet* and U.S. Navy liners makes you feel as though you'd brought along your own English butler. Your meals are prepared by chefs trained in the finest Continental traditions.

"Your ship has thousands of feet of open deck for daylight games and moonlight strolls. There are movies, parties and all the time in the world for reading the latest editions of *Saber* or *Fabian* novels, and meeting new friends.

"And the happy thing is, it's all yours, whether you travel in the elegance of an officer or the gay informality of an enlisted man.

"The Orient is calling!"

* * *

Here's one for the chiefs. It seems that an unidentified JO in his office (whose initials are HGB) had not worn his chief's hat too long when he went to the Office of Naval Research on a writing assignment. His young son was along. Out came a rear admiral. "What kind of chief is he, Daddy?" asked young son. Quick as a wink, our chief replied: "He's Chief of Naval Research, son."

* * *

USS *Amberjack* (SS 522) was completing a month's services to destroyers at Gitmo. The usual Captain's Personnel Inspection was held one evening before returning to her home port. At this time, six men were awarded their Submarine Dolphin insignia. As the crew was dismissed from quarters, they carried out the traditional routine of throwing each newly qualified submariner over the side. As might be expected, some of the executioners also went overboard.

The crew of a nearby destroyer had been observing the inspection but was a little baffled by what had happened.

From DD: PVT QM X WHAT HAPPENED.

From SS: UNSHINED SHOES.

The All Hands Staff

The United States Navy

Guardian of our Country

The United States Navy is responsible for maintaining control of the sea and is a ready force on watch at home and overseas, capable of strong action to preserve the peace or of instant offensive action to win in war.

It is upon the maintenance of this control that our country's glorious future depends. The United States Navy exists to make it so.

We Serve with Honor

Tradition, valor and victory are the Navy's heritage from the past. To these may be added dedication, discipline and vigilance as the watchwords of the present and future. At home or on distant stations, we serve with pride, confident in the respect of our country, our shipmates, and our families. Our responsibilities sober us; our adversities strengthen us.

Service to God and Country is our special privilege. We serve with honor.

The Future of the Navy

The Navy will always employ new weapons, new techniques and greater power to protect and defend the United States on the sea, under the sea, and in the air.

Now and in the future, control of the sea gives the United States her greatest advantage for the maintenance of peace and for victory in war. Mobility, surprise, dispersal and offensive power are the keystones of the new Navy. The roots of the Navy lie in a strong belief in the future, in continued dedication to our tasks, and in reflection on our heritage from the past. Never have our opportunities and our responsibilities been greater.

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• AT RIGHT: SAILORS ALL—U. S. Navymen on Paris liberty get the word on what to see in the famous French capital from two French sailors at Gar des Invalides.

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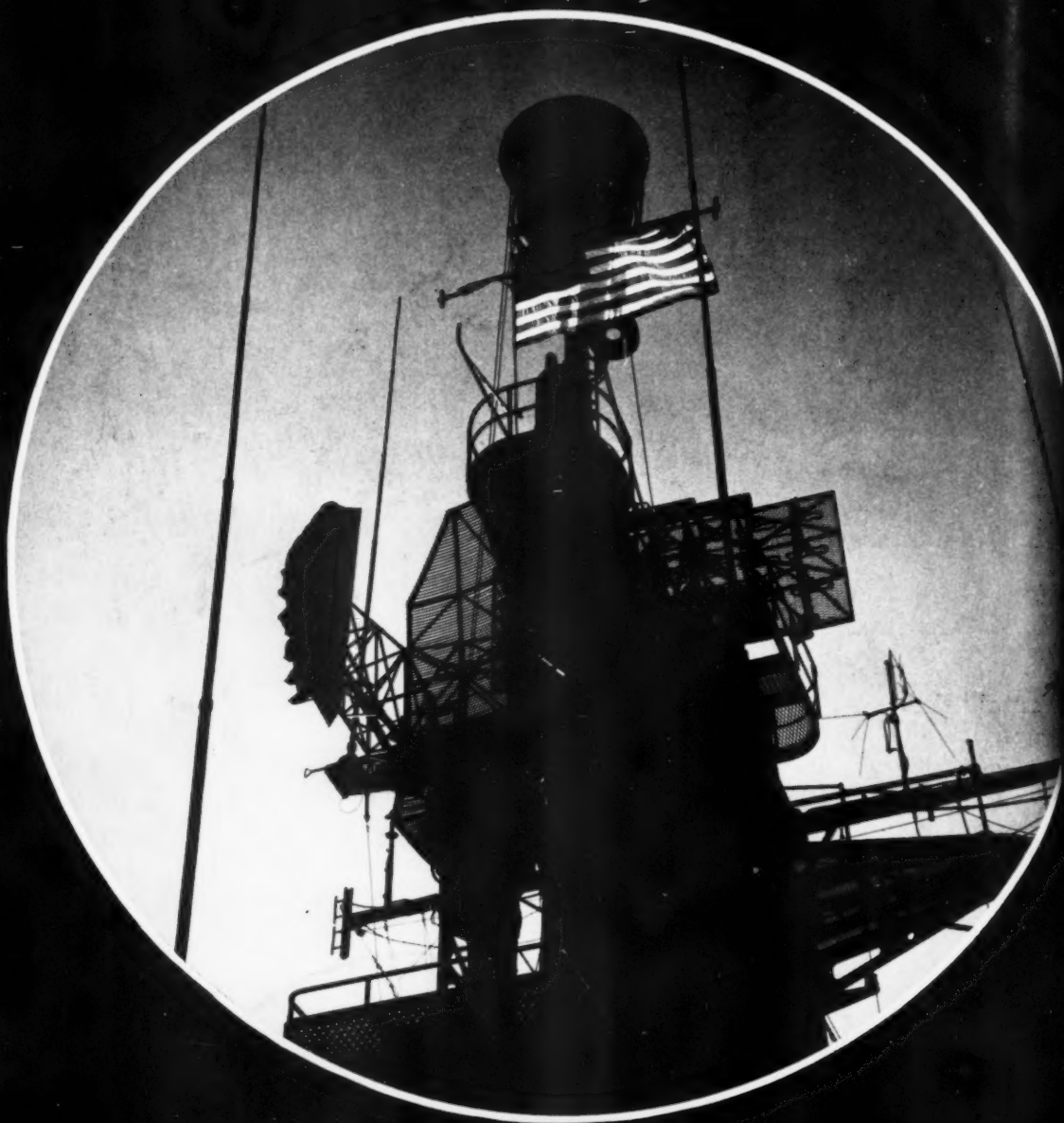
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